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Bureau of Land Management

Greater Sage-grouse Bi-state Distinct Population Segment Forest Plan Amendment Final Environmental Impact Statement



Humboldt-Toiyabe National Forest; Bureau of Land Management Carson City District, and Battle Mountain District Tonopah Field Office; Alpine and Mono Counties, California; and Douglas, Esmeralda, Lyon, and Mineral Counties, Nevada

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**Greater Sage-grouse Bi-state Distinct Population Segment
Forest Plan Amendment Final Environmental Impact Statement
Alpine and Mono Counties, California
Douglas, Esmeralda, Lyon, and Mineral Counties, Nevada**

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Abstract: The Humboldt-Toiyabe National Forest (the Forest) proposes to amend the Toiyabe National Forest Land and Resource Management Plan, and the Bureau of Land Management proposes to amend the Carson City District and Tonopah Field Office resource management plans to conserve, enhance, and/or restore habitats to provide for the long-term viability of the greater sage-grouse bi-state distinct population segment. This action is needed to address the recent “proposed threatened” Endangered Species Act (ESA) finding from the U.S. Fish and Wildlife Service (USFWS) by addressing needed changes in the management and conservation of the bi-state distinct population segment habitats within the project area to support overall greater sage-grouse population management objectives within the states of Nevada and California. In preparation of this final environmental impact statement (EIS), three alternatives were considered in detail and six were eliminated from detailed consideration. The three alternatives considered in detail are the (1) no-action alternative that would not amend the land use plans with additional regulatory mechanisms; (2) the modified proposed action that would amend the plans to include goals, objectives, and standards and guidelines to direct the management of activities proposed in grouse habitat; and (3) the alternative to the modified proposed action that would amend the plans similar to the proposed action, but with more conservation-focused goals, objectives, and standards and guidelines. The proposed action is the preferred alternative. The final EIS also proposes to amend the Toiyabe Forest Plan to allocated approximately 258,330 acres that fall within the amendment area and that were transferred to the Forest Service under Public Law 100-550 (April 26, 1989; Nevada Enhancement Act) to the Bridgeport Pinyon/Juniper Management Area. This proposed amendment is subject to the objection procedures of 36 CFR 219 subpart B (see 219.52(a)).

Summary

The Humboldt-Toiyabe National Forest (the Forest) proposes to amend the Toiyabe National Forest Land and Resource Management Plan (LRMP) and the Carson City District and Tonopah Field Office resource management plans (RMPs) of the BLM to conserve, enhance, and/or restore habitats to provide for the long-term viability of the greater sage-grouse bi-state distinct population segment (referred to in this document as bi-state DPS). The area affected by the proposed amendment includes approximately 650,746 acres of mapped habitat on Forest Service- and BLM-administrated lands in both Nevada and California. This action is needed to address the recent “proposed threatened” Endangered Species Act (ESA) decision from the U.S. Fish and Wildlife Service (USFWS) by addressing needed changes in the management and conservation of the bi-state DPS habitats within the amendment area to support greater sage-grouse population management objectives within the states of Nevada and California.

This project was introduced to the public via a notice of intent to prepare an environmental impact statement (EIS) published in the *Federal Register* on November 30, 2012. The publication of the notice of intent started the scoping period; comments were requested to be received by January 30, 2013. The Forest sent out news releases about the project starting December 6, 2012; conducted public meetings on January 9 and 10, 2013; and sent out a scoping letter on November 30, 2012, to about 200 interested parties. After the scoping period, issues were identified and edits were made to the proposed regulatory mechanisms to address comments. These issues were addressed in the original draft EIS, and while other alternatives to the proposed action were considered, only the no action and the proposed action alternatives were analyzed in detail.

The original draft EIS notice of availability was published in the *Federal Register* on August 23, 2013, with the comment period closing on November 20, 2013. This comment period was extended twice and ultimately ended on January 17, 2014. In addition, on March 21, 2014, Tony Wasley, Co-chairman of the Bi-state Executive Oversight Committee sent a letter to Ren Lohofener, Regional Director of the USFWS, requesting, in part, the USFWS provide an additional 6 months to analyze new information before making a final decision on the potential listing of the bi-state DPS. On March 31, 2014, this request was granted by the USFWS for an additional 6 months beyond the original October 2014 deadline, which extends the new deadline to April 2015.

With this new timeline the Forest Service and BLM decided to revise the original draft EIS to more fully consider and analyze comments received from the public and include new data concerning the conservation of the bi-state DPS. The notice of availability for the revised draft EIS was published in the *Federal Register* on July 11, 2014, for another 90-day comment period. This comment period ended on October 9, 2014. A news release regarding the revised draft EIS availability to the public was published in the *Reno Gazette Journal* starting July 30, 2014, with a stop date of August 29, 2014.

Major conclusions in this final EIS include:

- The proposed action and the alternative to the proposed action would provide the regulatory mechanisms needed to respond to the USFWS’s publishing of a “warranted, but precluded” ESA listing petition 12-month finding for the bi-state DPS and improve the ability of the Forest Service and BLM to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS.
- Impacts of both alternatives proposed on various resources are expected to be minor, with specific project design features being addressed at the site-specific NEPA level. For several years already, the Forest Service and BLM have been incorporating conservation for the bi-state DPS in project design, so many of the changes in site-specific activities are expected to be minimal. However,

some proposed standards and guidelines may cause a shift in the specific location of certain activities away from bi-state DPS habitat (i.e., grazing, recreation activities, etc.), and therefore have been analyzed in detail for further consideration in this final EIS.

- Based upon the effects of the alternatives, the responsible official will decide (1) to amend the Forest Plan as described in the proposed action, (2) to amend the Forest Plan with a modification of the proposed action, or (3) not to amend the Forest Plan.

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Chapter 1. Purpose of and Need for Action

Introduction

The Forest Service has prepared this final environmental impact statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and state laws and regulations. This final EIS discloses the direct, indirect, and cumulative environmental impacts that could result from the proposed action and alternatives.

The Humboldt-Toiyabe National Forest (the Forest) is issuing this final EIS to disclose the expected effects of a proposed amendment to the 1986 Toiyabe Land and Resource Management Plan (Forest Plan) to incorporate management direction to conserve, enhance, and restore habitat for the bi-state distinct population segment of the greater sage-grouse (bi-state DPS). The proposed amendment applies to the Bridgeport and Carson ranger districts of the Forest. Additional documentation, including more detailed analyses of affected resources, may be found in the planning record located at the Humboldt-Toiyabe National Forest Supervisor's Office at 1200 Franklin Way, Sparks, Nevada 89431.

The Forest Service is the lead agency for preparing the EIS. The Bureau of Land Management (BLM) is a cooperating agency, and is proposing to amend their Carson City Field Office Consolidated Resource Management Plan (RMP) and the Tonopah Field Office RMP based on analysis in this EIS. The BLM will be writing their own record of decision, and any needed adjustments to the management direction would be written to be in compliance with BLM resource plan regulations and direction according to agency protocols (see chapter 2 for the specific BLM plan language).

The amendment applies to all National Forest System (NFS) lands and all BLM (public lands) within the amendment area boundary (Figure 1-1). The amendment area boundary includes portions of Douglas, Esmeralda, Lyon, and Mineral counties in Nevada; and portions of Alpine, Inyo, and Mono counties in California (Table 1-1). The amendment area boundary includes NFS lands, BLM public lands, state, and private lands. The management direction in the amendment will only apply to NFS lands and BLM public land (Figure 1-2). The amendment area boundary encompasses approximately 3,030,729 acres. Property ownership within this boundary is displayed in Table 1-2.

Within the amendment area boundary there is about 650,746 acres of bi-state DPS habitat (Table 1-3). The Forest Service manages approximately 426,809 acres of habitat and the BLM manages about 223,937 acres of habitat. The remaining 2.4 million acres in the amendment area include the interstitial spaces between habitat that are not mapped as habitat or the areas between mapped habitat and the edges of the population management unit (PMU) boundaries that do not include habitat conditions.

Background

In March 2010 the USFWS published a "warranted, but precluded" Endangered Species Act listing petition 12-month finding for the greater sage-grouse bi-state distinct population segment (Bi-state DPS). The USFWS concluded that existing regulatory mechanisms to protect sage grouse and their habitats in the bi-state area "...afford sufficient discretion to the decision makers as to render them inadequate to ameliorate the threats to the Bi-state Distinct Population Segment." The major threats identified by the USFWS in regards to actions authorized on NFS lands and BLM public lands is habitat modification, including modification from infrastructure (fences, powerlines, and roads), recreation, mining, energy development, grazing, fire, invasive species, noxious weeds, pinyon-juniper encroachment, and climate

change. As described below in the “Purpose and Need for Action” section, the Forest Service and BLM proposed action is to address the USFWS finding about their regulatory mechanisms.

On October 28, 2013, the USFWS published a proposed rule to list the bi-state DPS as a threatened species (78 FR 64358) and a proposed rule to designate critical habitat (78 FR 64328) under the Endangered Species Act. The proposed rules began a public comment period, subsequently extended and reopened (78 FR 77087; December 20, 2013; 79 FR 19314, 79 FR 26684, and 79 FR 31901). In their most recent notice, August 5, 2014 (79 FR 45420), the USFWS reopened the public comment period, delaying a final listing determination, citing new information on the population trends of the bi-state DPS and interagency efforts, existing regulatory mechanisms, and current efforts to change management plans “to ensure the conservation efforts are successfully implemented to address threats that may be acting on the DPS or its habitat.” This latest public comment period closed on September 4, 2014, and the next USFWS action is expected to be a final listing determination.

Items to Clarify in this Final Environmental Impact Statement

There have been three EISs produced for this project: the original draft EIS (published in August 2013), a revised draft EIS (published in July 2014), and now this final EIS. Throughout the process there have been changes and updates in the documents to communicate the proposed management direction that would be added to the Toiyabe National Forest Plan and the Carson City District and Tonopah Field Office RMPs. This section seeks to clarify further where the proposed action applies and the areas used for this analysis of effects because of their importance to the public’s understanding of the proposed action and analysis. Additional clarification of items that were brought up during the comment periods can be found in appendix C, “Response to Comments.”

Modified Plan Amendment Area Boundary. The plan amendment area boundary was modified for the revised draft EIS. The plan amendment area boundary for this final EIS is the same as it was for the revised draft EIS.

Shown in Figure 1-1 and Figure 1-2 of the revised draft and the final EIS, the modified plan amendment area boundary is based on administrative boundaries for the ranger districts of the Humboldt-Toiyabe National Forest and the BLM Carson City District and Battle Mountain District-Tonopah Field Office. The modification of the plan amendment area boundary presented in Figure 1-1 of the original draft EIS was in response to comments questioning the accuracy of the project boundary. Also in response to comment, the modification includes habitat for the bi-state DPS that was not included within the original boundary. No bi-state DPS habitat acres were removed from the plan amendment area by the modification.

The plan amendment area boundary in the original draft EIS contained over 5 million acres (5,040,457); this modified plan amendment area boundary in the revised draft and final EIS contains a little over 3 million acres (3,030,729). There were 648,800 acres of habitat included in the plan amendment area boundary of the original draft EIS; there are 650,746 acres of habitat included in the modified plan amendment area boundary.

For the remainder of this document, the modified plan amendment area boundary is referred to only as “plan amendment area boundary.”

Table 1-1. Comparison of acreages between draft EIS and revised draft EIS/final amendment area boundaries (acres of habitat)

Plan Amendment Area Boundary	Bi-state DPS Habitat Acres
Draft EIS	648,800
Revised Draft EIS	650,746
Final EIS	650,746

Table 1-2. Comparison of acreages between the draft EIS and revised draft/final amendment area boundaries (acres of land within the boundary by county)

Plan Amendment Area Boundary	Alpine County, CA	Mono County, CA	Carson City, NV	Douglas County, NV	Esmeralda County, NV	Lyon County, NV	Mineral County, NV
Draft EIS	249,701	454,227	51,403	370,310	1,725,701	903,714	1,285,402
Revised Draft EIS	77,130	347,045	37,398	302,980	816,243	555,578	894,355
Final EIS	77,130	347,045	37,398	302,980	816,243	555,578	894,355

Table 1-3. Comparison of acreages between the draft EIS and revised draft/final amendment area boundaries (acres of land by general ownership categories)

Plan Amendment Area Boundary	Bureau of Indian Affairs	BLM	Department of Defense	Forest Service	USFWS	National Park Service	Private	State
Draft EIS	12,902	3,044,829	125,547	1,232,353	15	45	549,903	32,310
Revised Draft EIS	4,384	1,701,618	52,197	967,878	0	0	285,033	18,044
Final EIS	4,384	1,701,618	52,197	967,878	0	0	285,033	18,044

Note: Does not include acreages of water features within the boundary.

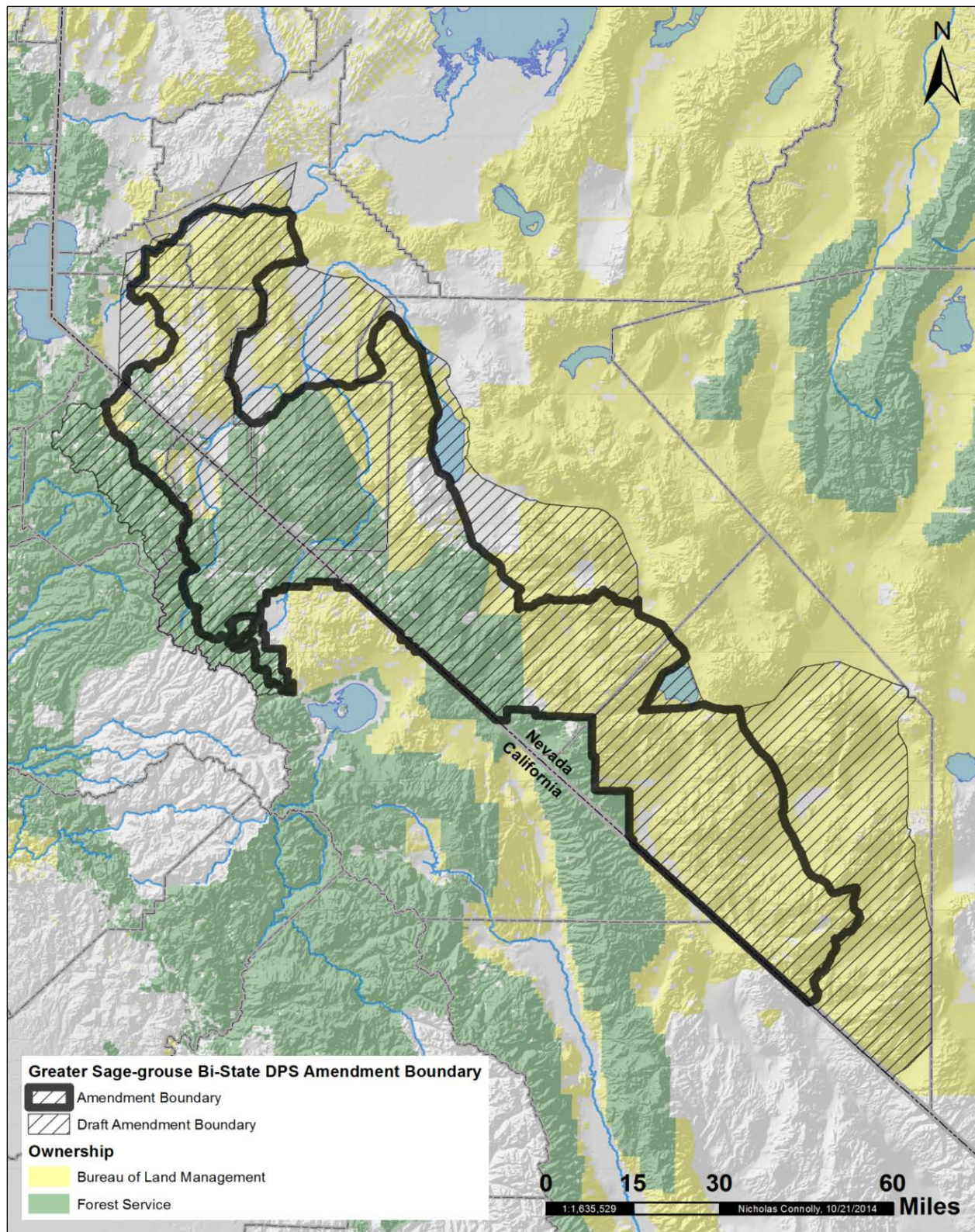


Figure 1-1. Vicinity map of the plan amendment area boundary from the original draft EIS and plan amendment area boundary used in the revised draft and final EIS

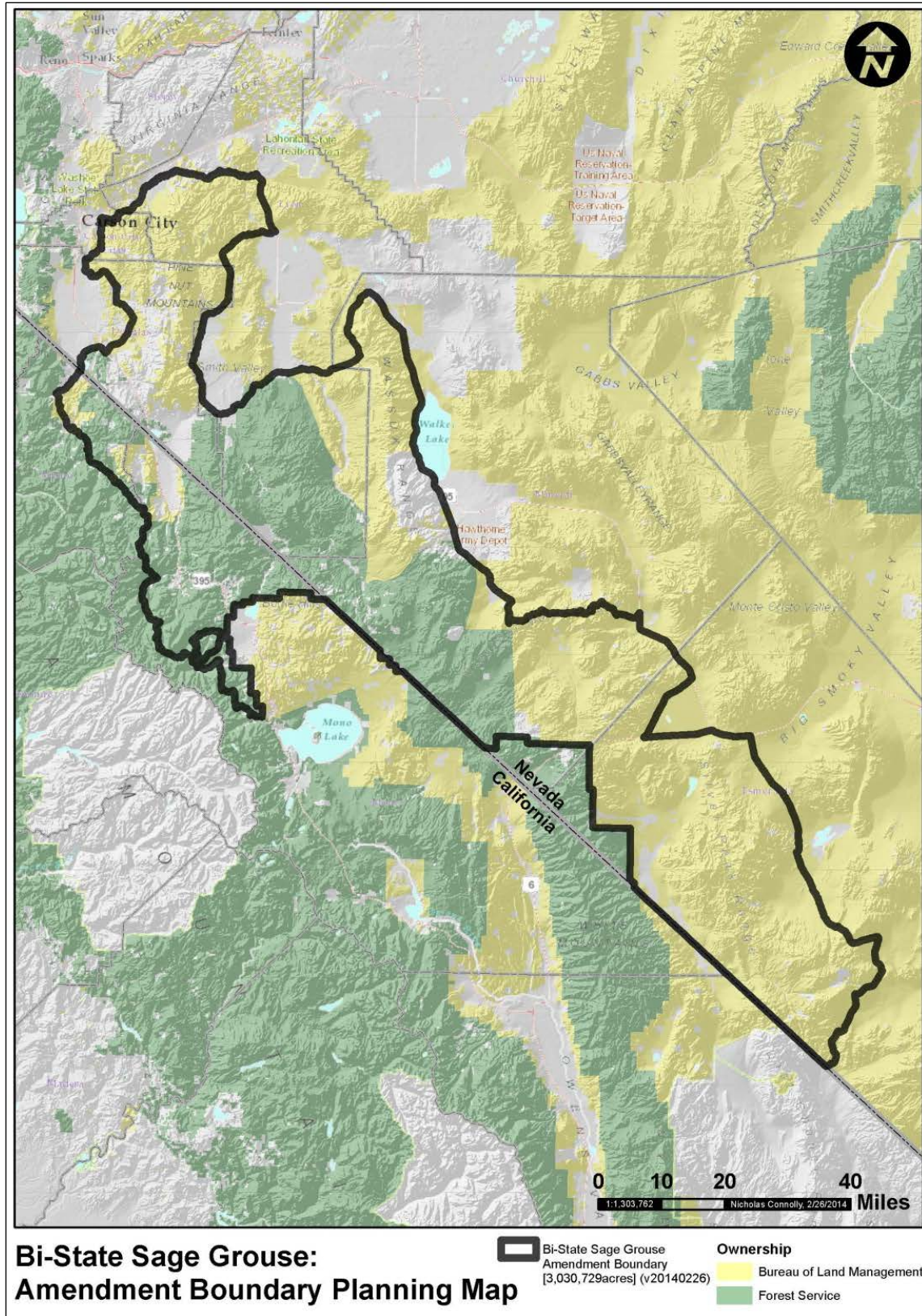


Figure 1-2. Forest Service- and BLM-administered lands within the amendment area

Clarification of Lands to which the Plan Amendment would apply. The plan amendment management direction (i.e., regulatory mechanisms) proposed in this document would apply to identified bi-state DPS habitat and buffers only on NFS lands or BLM public lands within the plan amendment area boundary.

Clarification of Plan Amendment Area Boundary Versus Analysis Area Boundary. Also distinct from the plan amendment area boundary and the area to which the plan amendment management direction would apply, the “analysis area boundary” is the boundary identified by each specialist for each particular resource. These analysis area boundaries may vary by resource, as needed for analysis. Boundaries for direct/indirect effects analysis may be different than boundaries needed for cumulative effects analysis for each resource. These analysis area boundaries are defined by the specialist based on the proposed action and alternatives and their potential effects to management of the resource.

Clarification of Applicable Land Use Plan. The proposed amendment is an addition to management direction of the applicable BLM or Forest Service land use plan; therefore, it is important to establish what that base is. The plan amendment area boundary includes approximately 258,336 acres of lands that were transferred from the BLM to the Forest Service under the Nevada Enhancement Act (Public Law 100-500, April 26, 1989) for the purpose of increasing and improving “... the efficiency and cost effectiveness of management of lands by having administration under one agency.” The Act required that the transferred lands continue to be managed under the land use plan in effect at the time of the transfer, which was BLM’s, until “considered in plans developed under applicable provisions of law,” which is specified for the Forest Service as the planning requirements of section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974 as amended by the National Forest Management Act (NFMA). The Forest Service had intended to establish the application of its management direction during the anticipated revision of the Toiyabe Forest Plan; however, because that revision has not yet occurred, the current applicable land use plan continues to be that of the BLM.

Because section 6(f)(4) of the NFMA also provides for amending a forest plan, the change in management direction from the BLM to the Forest Service for the transferred lands in the plan amendment area can be done through plan amendment and is, thus, proposed as part of the proposed action. The proposed action and alternative, therefore, would apply the management direction of the Toiyabe Forest Plan, as amended, including an amendment for the bi-state DPS, to the acres in the plan amendment area boundary that were transferred to the Forest Service under the Nevada Enhancement Act.

Furthermore, the Toiyabe Forest Plan assigns lands to management areas. The Nevada Enhancement Act lands in the plan amendment area boundary surround the portions of the Bridgeport Ranger District located in Nevada and adjacent to the Bridgeport Pinyon/Juniper Management Area #6 as described in the Toiyabe Forest Plan. The Bridgeport Pinyon/Juniper Management Area is 605,400 acres with management emphasis on key values of wildlife, dispersed recreation, and grazing. Also included in the management direction is the need to provide for the orderly exploration, development, and reclamation of mining resources in a manner that minimizes effects on range, wildlife, and recreation values. The proposed amendment and alternative, therefore, would also allocate these transferred lands to management area #6 of the Toiyabe Forest Plan.

Clarification of Bi-state DPS Habitat. The bi-state DPS habitat is described in detail in chapter 2, “Common to Alternatives B and C: Bi-state DPS Habitat.” For the bi-state DPS, all habitat is considered high priority, so there is no delineation of “general” or “priority” habitat for this analysis. References to “priority” habitat in the revised draft EIS were in error and have been removed for the final EIS. Management direction proposed and then ultimately selected from this final EIS will apply to the entire designated bi-state DPS habitat area.

Current Forest Service and BLM Conservation Effort

The Bridgeport and Carson ranger districts have been reducing impacts to the bi-state DPS and habitat by designing and incorporating protective measures (i.e., management direction) into all of their projects for the past several years. These proactive, protective measures are supported by, but not specified in the current land management plans. These efforts were documented in the March 15, 2012, publication from the Bi-state Executive Oversight Committee for the Conservation of Greater Sage-grouse entitled, “Bi-state Action Plan: Past, Present and Future Actions for the Conservation of the Greater Sage-grouse Bi-state Distinct Population Segment.” That document not only highlighted the current conservation activities, but also identified the primary threats to the bi-state DPS.¹

On December 3, 2012, the BLM Nevada State Office released Instruction Memorandum (IM) NV-2013-009 that provided interim conservation policies and procedures to the BLM field officials to be applied to ongoing and proposed authorizations and activities that affect the bi-state DPS and its habitat. The IM direction ensures that interim conservation policies and procedures are implemented when the Carson City District or Tonopah Field Office (within the Battle Mountain District) authorizes or carries out activities on BLM public lands during the current revision of their RMPs so as to not foreclose any future options before the planning process can be completed. The IM direction supplements the direction for bi-state DPS contained in the BLM Washington Office WO-IM-2010-071 (Gunnison and Greater Sage-grouse Management Considerations for Energy Development) and is consistent with WO-IM-2011-138 (Sage-grouse Conservation Related to Wildland Fire and Fuels Management). Although this IM has expired, the BLM continues to follow this direction. Therefore, the IM direction is still current and has not changed.

Other Related Efforts

Various agencies have been working for several years to study and improve the habitat conditions for the greater sage-grouse and the bi-state DPS. These agencies include the BLM, Forest Service, USFWS, U.S. Geological Service, National Resource Conservation Service, Nevada Department of Wildlife, and California Department of Fish and Game. Such efforts have also been made by the bi-state DPS local area working group.

Some of these agencies have produced documents including the Bi-state Sage-grouse Action Plan of 2012 and the Technical Report on National Greater Sage-grouse Conservation Measures and Planning Strategy in 2011. The BLM and Forest Service are working on five subregional EISs covering 10 western states to amend up to 20 land and resource management plans for the greater sage-grouse. Those EISs, however, do not specifically address the bi-state DPS, but do contain some applicable information. For more information on this regionwide effort see Nevada and Northeastern California Great Sage-grouse Land Use Plan Amendment Draft Environmental Impact Statement (2013).

Purpose and Need for Action

To address the USFWS finding, the Forest and the BLM Carson City District and the Tonopah Field Office are proposing to amend their respective Forest Plan and RMPs, collectively referred to as “land use plans”, to include goals and objectives, and/or standards and guidelines, or actions and best management practices as part of a regionwide effort (USDI BLM and USDA Forest Service, draft, May 2013) to conserve the bi-state DPS and its habitat.

¹ Threats include, but are not limited to, urbanization, roads and fences, livestock and wild horse grazing, pinyon and juniper encroachment, wildfire, and isolation of small populations. In addition, threats can also include permitted activities such as recreation events; mineral exploration, development, and production; and vegetation treatments.

The purpose of the proposed amendment is to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. This action is needed to address the now “proposed threatened” Endangered Species Act listing, and to support bi-state DPS population management objectives within the states of Nevada and California. Under the National Forest Management Act of 1976 (NFMA) and the Federal Land Policy and Management Act of 1976 (FLPMA), the Forest Plan and RMPs direct and guide management of the NFS and BLM lands and resources administered under them. All projects and activities must be consistent with the applicable forest plan or RMP.

Proposed Action

The Forest Service is proposing to amend the Toiyabe National Forest Land and Resource Management Plan (Forest Plan) and the BLM is proposing to amend the Tonopah Resource Management Plan (RMP) and the Carson City Field Office Consolidated RMP by adding to or changing some of the land use plan management direction, i.e., regulatory mechanisms, to reduce, eliminate, or minimize threats to bi-state DPS habitat on Federal lands administered under those plans.

The specific regulatory mechanisms in the proposed plan amendment are identified in chapter 2 under the proposed action alternative.

The Forest Service is also proposing to establish the land use plan direction to which the amendment would apply for lands transferred to the Forest Service under the Nevada Enhancement Act as that of the Toiyabe Forest Plan, as amended, with allocation to Bridgeport Pinyon/Juniper Management Area #6.

Decision Framework

The Forest Plan amendments would be limited to direction specific to the conservation of the habitats of the bi-state DPS (see Figure 2-1, chapter 2) except for the areas in the plan amendment area boundary that were transferred to the Forest Service under the Nevada Enhancement Act. For those transferred areas, the Forest Plan amendment would apply the management direction of the Toiyabe Forest Plan; the management direction of the Bridgeport Pinyon/Juniper Management Area #6; and the direction specific to the conservation of the habitats of the bi-state DPS. Based on this EIS the responsible official will decide:

- 1) To amend the Forest Plan as described in the proposed action;
- 2) To amend the Forest Plan as described in the alternative;
- 3) To amend the Forest Plan by combining elements of the proposed action and alternative; or
- 4) Not to amend the Forest Plan.

Because the BLM may use this EIS as the basis for amending their RMPs, the EIS includes effects to BLM programs and resources. However, the decision to be made by the Forest Service responsible official is for only the Forest Plan and thus, affects only NFS lands.

Public Involvement

Notice of Intent and Initiation of Scoping. The notice of intent was published in the *Federal Register* on November 30, 2012 (*Federal Register* Volume 77, Number 231). The notice asked for public comment on the proposal to be received by January 30, 2013.

In addition, a scoping letter was sent out to the public on November 30, 2012, describing the proposed action and asking for comments. This letter was sent out to approximately 200 organizations and individuals.

The Agency also published a news release in the *Reno Gazette Journal* on December 6, 2012 (with a stop date of January 30, 2013). The release described the project and invited public comment. The agencies also hosted two public meetings. One was held on January 9, 2013, in Minden, Nevada, and the other on January 10, 2013, in Smith Valley, Nevada, where a total of 15 people attended.

Public notification of this proposed action was posted online from November 29, 2012, to January 30, 2013, at http://www.fs.fed.us/nepa/nepa_project_exp.php?project=40683. The public has been notified that this proposed amendment is subject to the objection procedures of 36 CFR 219 subpart B (see 219.52(a)).

Draft EIS. The Notice of Availability of the Draft EIS for the Greater Sage-grouse Bi-state Distinct Population Segment Forest Plan Amendment was published in the *Federal Register* August 23, 2013; this publication started the 90-day comment period that ended November 20, 2013. However, this comment period was extended twice and then ended January 17, 2014. In addition, public notification of this draft EIS was posted online from August 16, 2013, through the end of the extended comment period at http://www.fs.fed.us/nepa/nepa_project_exp.php?project=40683. Also, a news release was published in the *Reno Gazette Journal* starting August 16, 2013 (with an original stop date of November 20, 2013). With each extension (first extension from November 20 to December 27, 2013; and the second from December 27, 2013, to January 17, 2014) a news release notified the public and was published in the *Reno Gazette Journal*, as well as a notice of the comment period extension published in the *Federal Register* on December 27, 2013.

Revised Draft EIS. On March 21, 2014, Tony Wasley, Co-chairman of the Bi-state Executive Oversight Committee sent a letter to Ren Lohofener, Regional Director of the USFWS requesting, in part, that the USFWS provide an additional 6 months to analyze new information before making a final determination on the listing of the bi-state DPS as a threatened species. On March 31, 2014, the USFWS added 6 months beyond the original October 2014 deadline for the determination, which extends their new deadline to April 2015.

With the additional information gathered during the twice-extended comment period on the draft EIS, as well as the additional time provided by the USFWS before their final determination, the Forest Service responsible decision directed the preparation of a revised draft EIS to allow the Forest Service and the BLM time to analyze new data and provide the public the opportunity to review and comment on the modifications made to the proposed action and a new alternative based on the new data. The notice of availability for this revised draft EIS was published in the *Federal Register* on July 11, 2014, for another 90-day comment period. This comment period ended on October 9, 2014. A news release was published in the *Reno Gazette Journal* starting July 30, 2014, with a stop date of August 29, 2014, about the revised draft EIS availability to the public.

Issues

Using the comments from the public and other agencies, the ID team developed a list of issues to address. Issues are defined as a point of disagreement, debate, or dispute about the proposed action based upon the effects of that action. Issues were defined as those directly or indirectly caused by implementing the proposed action and were used to formulate alternatives or prescribe mitigation measures or monitoring requirements.

We addressed issues various ways: (1) developing an alternative to alter resource tradeoffs, (2) requiring mitigation to reduce impacts to a resource, and (3) disclosing and comparing the relative difference in resource effects between alternatives. One or more of these methods were used to address an issue.

The following issues were identified during the scoping and comment periods for this proposed action and are addressed in chapter 3.

1. The proposed actions effects on the management of access to Federal lands: The proposed action could result in a reduced level of access across the planning area, reducing opportunities for recreation on trails, routes, and cross-country, and limiting permits for discretionary actions on Forest Service- and BLM-administered lands.

a. Issue measure: Miles of travel routes that would potentially be changed from the current condition due to seasonal restrictions.

b. Issue measure: Potential changes to off-highway vehicle recreational events by timing, location, and season.

c. Issue measure: Acres of land available for cross-country opportunities that would be closed.

d. Issue measure: Restrictions on special use permits issued for recreation purposes.

2. The proposed actions effects on resource program management and the potential resulting economics issues: The proposed action could adversely affect the economy of the region by limiting the utilization of rangelands, mineral sites, geothermal activities, and tourism due to buffer zones and timing limitations to protect the bi-state DPS.

a. Issue measure: Estimate potential changes in forage availability or production (e.g., animal unit months).

b. Issue measure: Potential changes in availability of mineral resources and/or the potential extraction of mineral resources.

c. Issue measure: Estimated change in opportunities for the development of alternative energy resources (i.e., geothermal, solar, wind, etc.).

d. Issue measure: Estimated changes in the volume or type of tourism based on potential changes in travel and tourism related employment, and visitor information provided by the BLM recreation monitoring and Forest Service national visitor use monitoring.

3. The proposed actions effects on the management of the wildlife program on Federal lands.

4. The proposed actions effects on the management of range and grazing programs on Federal lands.

- 5. The proposed actions effects on the management of weeds program on federal lands.**
- 6. The proposed actions effects on the management of wild horses and burros on Federal lands.**
- 7. The proposed actions effects on the management of the minerals programs on Federal lands.**
- 8. The proposed actions effects on the management to fire and fuels program management on Federal lands.**

Applicable Laws, Regulations, Policies and Executive Orders

Disclosures and findings required by these laws and orders are contained in this EIS where appropriate:

- American Indian Religious Freedom Act of 1978
- Archeological Resource Protection Act of 1979
- Clean Air Act of 1979 (as amended)
- Clean Water Act of 1977 (as amended)
- Endangered Species Act of 1973 (as amended)
- Executive Order 11593 (Cultural)
- Executive Order 11988 (Floodplains)
- Executive Order 11990 (Wetlands)
- Executive Order 12898 (Environmental Justice)
- Executive Order 13007 (American Indian Sacred Sites)
- Executive Order 13175 (Consultation and Coordination with Indian Tribal Governments)
- Executive Order 13186 (Migratory Bird Treaty)
- Forest and Rangeland Renewable Resources Planning Act of 1874 (as amended)
- Magnuson-Stevens Fishery Conservation and Management Act of 1996
- National Environmental Policy Act of 1969 (as amended)
- National Forest Management Act of 1976
- National Historic Preservation Act of 1966 (as amended)
- Native American Graves Protection and Repatriation Act of 1990
- Rescissions Act of 1995 (as amended)
- Wilderness Act of 1964
- General Mining Law of 1872 (as amended)
- Mineral Leasing Acts of 1920 (as amended)
- Mineral Material Acts of 1947 (as amended)
- Surface Resources Act of 1955
- Mining and Minerals Policy Act of 1970
- Energy Policy Act of 2005
- Geothermal Steam Act of 1970 (30 USC 1004)

Chapter 2. Alternatives, Including the Proposed Action

Introduction

This chapter describes and compares the alternatives considered for this final EIS, and includes a description of the three alternatives considered. This chapter also presents the alternatives in comparative form, defining the differences between the alternatives so there is clear basis to choose among options by the responsible official and for consideration by the public. The information used to compare the alternatives is based upon the design of the alternative and/or the potential environmental, social, and economic effects of implementing each alternative.

Alternatives Considered

The Forest Service developed three alternatives in response to issues raised by the public—the no action, proposed action, and an alternative to the proposed action, summarized here and described below in the section “Alternatives Described in Detail.”

Alternative A – No Action

Under the no-action alternative, current land use plans would continue to guide Forest Service and BLM management of the lands they administer in the amendment area, which includes sensitive species direction (USDA Forest Service 1986 [as amended] and BLM RMP 2007). No forest plan or RMP amendment would be approved for the purpose of conserving, enhancing, and/or restoring sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. The lands in the plan amendment area boundary that were transferred from the BLM to the Forest Service under the Nevada Enhancement Act would not be brought under management direction of the Toiyabe Forest Plan.

Alternative B – The Proposed Action

The Forest Service is proposing to amend the Toiyabe National Forest Land and Resource Management Plan (Forest Plan) and the BLM is proposing to amend the Carson City District Consolidated Resource Management Plan (RMP) and the Tonopah Field Office RMP by adding to or changing some of the regulatory mechanisms to reduce, eliminate, or minimize threats to bi-state DPS habitat on Federal lands administered under those plans. The regulatory mechanisms would apply to bi-state DPS habitat, described below, on Forest Service- and BLM-administered lands within the plan amendment area boundary.

The amendments of the Forest Plan and BLM RMPs would recognize valid existing rights. Lands to which the plan amendments would apply are only those NFS lands managed by the Forest Service under the Forest Plan and the BLM public lands (including surface-estate, split-estate lands) managed by the BLM under the BLM RMPs. The lands addressed in the plan amendments are only in habitat of the bi-state DPS, described below.

Alternative B also establishes the lands within the plan amendment area boundary that were transferred under the Nevada Enhancement Act as being under the management direction of the Forest Plan, with allocation to the Bridgeport Pinyon/Juniper Management Area #6 and as amended by this alternative.

Table 2-1 lists the desired habitat conditions, expressed as desired habitat conditions, goals and objectives, and standards and guidelines, proposed to amend the Forest Plan and the BLM RMPs.

Alternative C – The Conservation Alternative

This alternative proposes desired future conditions, goals and objectives, and standards and guidelines that address the purpose and need of this plan amendment by focusing on a more conservation-conservative approach to land management than the proposed action by including more requirements for project design and establishing a more detailed schedule for accomplishments. The desired future conditions are the same as for alternative B. Alternative C includes additional goals and objectives. Some standards and guidelines for alternative C are the same as those for alternative B; some differ from those in alternative B, and some have no equivalent in alternative B. This alternative allows for the analysis and disclosure of a range of methods to achieve the purpose and need of providing regulatory mechanisms to reduce, eliminate, or minimize threats to bi-state DPS habitat on Federal lands. The regulatory mechanisms would apply to bi-state DPS habitat, described below, on NFS lands and BLM public lands as described above for alternative B.

Alternative C also establishes the lands within the plan amendment area boundary that were transferred under the Nevada Enhancement Act as being under the management direction of the Toiyabe Forest Plan, with allocation to the Bridgeport Pinyon/Juniper Management Area #6 (see appendix B for map) and as amended by this alternative.

Alternatives Described in Detail

Common to Alternatives B and C: Nevada Enhancement Act Lands

Alternatives B and C would establish management of the lands within the plan amendment area boundary that were transferred from BLM to the Forest Service under the Nevada Enhancement Act under the Toiyabe National Forest Land and Resource Management Plan, as amended. These alternatives would increase the size of the Bridgeport Pinyon/Juniper #6 Management Area from 605,400 acres to 863,736 acres (see appendix B). All general and management area #6-specific management plan direction as presented in the Forest Plan as amended, would apply to all portions of these lands, including the amendment by the alternative.

Common to Alternatives B and C: Valid Existing Rights

The amendment under alternatives B and C would recognize valid existing rights.

Common to Alternatives B and C: Bi-state DPS Habitat

For this amendment, bi-state DPS habitat (habitat) refers to the “Bi-state DPS Habitat Map” (Figure 2-1) of all seasonal and year-round bi-state DPS habitat plus all land within 7 kilometers (about 4 miles) of active leks. The habitat map was created with modeling and aerial imagery, and is therefore subject to field-verification and updates as new information becomes available. For the bi-state DPS, all habitat is considered high priority, so there is no delineation of “general” or “priority” habitat for this analysis. References to priority habitat in the revised draft EIS were in error and have been removed from the final EIS. Management direction proposed and then ultimately selected from this final EIS will apply to the entire designated habitat area.

While greater sage-grouse leks and core breeding habitat are fairly stable over time, they are not fixed geographic points and are subject to change. For example, the status of leks may fluctuate between inactive, pending, or active, and habitat areas may change over time (such as after wildland fire modifies habitat or the slow expansion of woodlands into habitat). Appropriate conservation measures will be considered and applied on a case-by-case basis through NEPA for proposed projects, based on ground surveys within proposed disturbance areas.

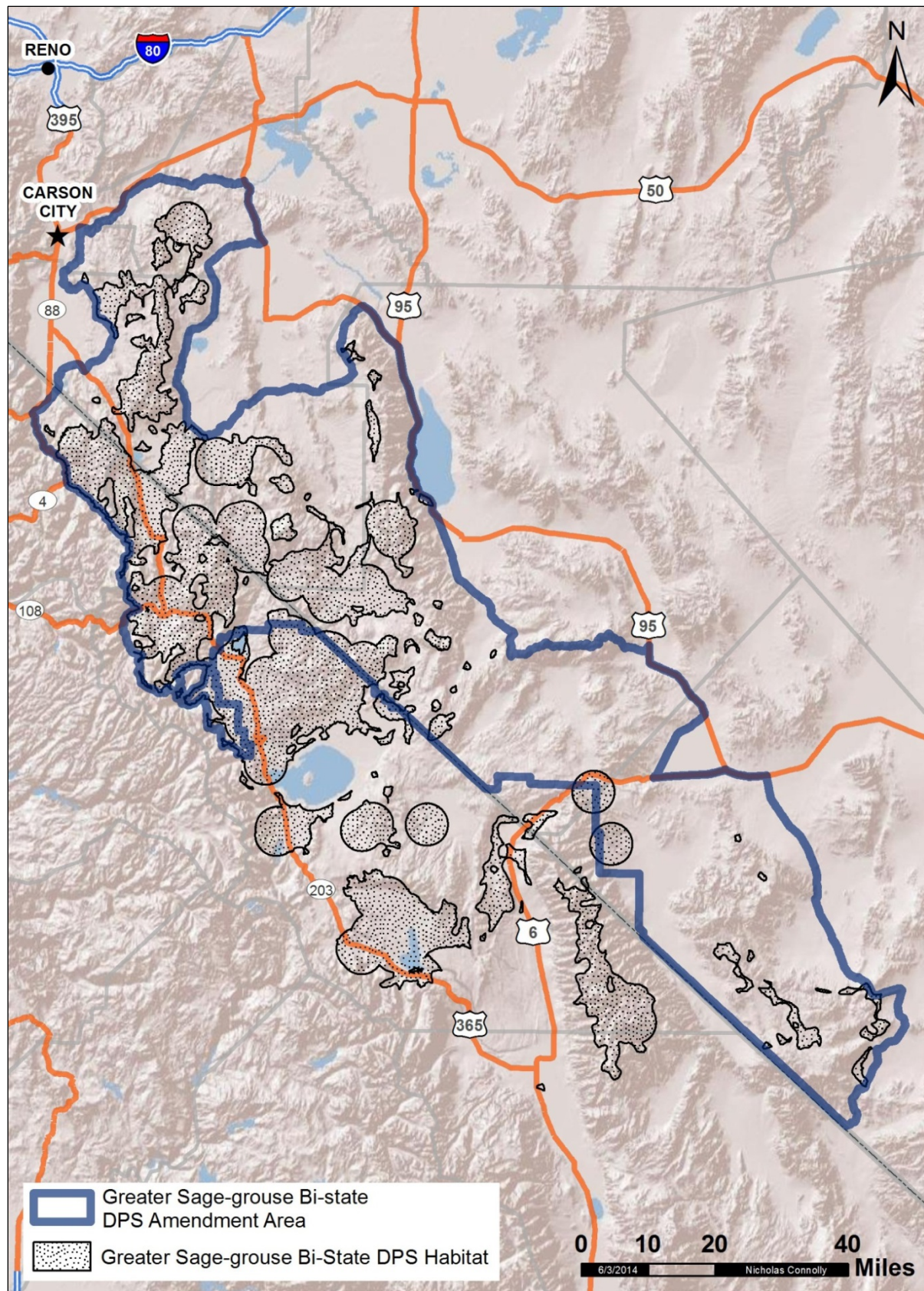


Figure 2-1. Greater sage-grouse bi-state distinct population segment (DPS) habitat

For the habitat map in this amendment proposal under both alternatives B and C, the Forest Service proposes to use the habitat map created and approved by the Bi-state Sage Grouse Technical Advisory Committee, consisting of representatives from California and Nevada BLM, U.S. Geological Survey, Forest Service, USFWS, and the California and Nevada state wildlife agencies. The May 12, 2012, version of this map is available on the Humboldt-Toiyabe National Forest and BLM websites. Updates may become available on an annual basis as monitoring and mapping continues. The proposed amendment would allow adjustments to the map as new science provides, subsequent to a NEPA sufficiency review. If the review indicates that effects are other than what are disclosed in this final EIS, the appropriate NEPA and planning processes will be followed before updating the map.

Table 2-1. Bi-state DPS desired habitat conditions

Category	Desired Condition
General	<ul style="list-style-type: none"> ▪ Rangeland health assessments are meeting all standards
	<ul style="list-style-type: none"> ▪ Sagebrush communities are large and intact with >65% of the landscape in sagebrush cover (Aldridge and Boyce 2007).
	<ul style="list-style-type: none"> ▪ The extent and dominance of invasive species, including cheatgrass, is limited to <5% (Blomberg et al. 2012).
	<ul style="list-style-type: none"> ▪ There is no conifer encroachment within line-of-sight of leks or nesting areas; there are less than 3 to 5 trees per acre in other areas (Connelly et al. 2000).
	<ul style="list-style-type: none"> ▪ For security of nesting there is <3% phase I (>0% to <25% cover), no phase II (25–50% cover), and no phase III (>50% cover), within a 0.53-mile (850-meter) buffer from center of data collection plot (Casazza et al. 2011; USGS [in prep](a)).
	<ul style="list-style-type: none"> ▪ For winter cover and food there is <5% phase I (>0% to <25% cover), no phase II (25–50% cover), no phase III (>50% cover) within a 0.53-mile (850-meter) buffer from center of data collection plot (USGS [in prep](a)).
	<ul style="list-style-type: none"> ▪ For winter cover and food the extent of the sagebrush is as follows: >85% sagebrush land cover within 0.53-mile (850-meter) buffer from center of data collection plot (USGS [in prep](a)), Doherty et al. 2008).
Leks	<ul style="list-style-type: none"> ▪ There is adjacent sagebrush cover (Connelly et al. 2000; Blomberg et al. 2012).
	<ul style="list-style-type: none"> ▪ No structures taller than the surrounding vegetation community are within line-of-sight of the lek or within 4 miles (6.5 kilometers) (Coates et al. 2013; Nevada Governor's Sage-grouse Conservation Team 2010).
	<ul style="list-style-type: none"> ▪ Trees >3.3 feet (1 meter) above shrub canopy should not be within line-of-sight of a lek and should be <4% of landscape canopy cover within 1 kilometer of leks (Braun 2006; Connelly et al. 2000; Stiver et al. (2015); Baruch-Mordo et al. 2013).
Nesting (Breeding)	<ul style="list-style-type: none"> ▪ Sagebrush canopy cover is greater than 20 percent (Coates et al. 2010; Kolada et al. 2009a, 2009b; Connelly et al. 2000; Connelly et al. 2003; Hagen et al. 2007).
	<ul style="list-style-type: none"> ▪ Sagebrush species present include <i>Artemesia tridentate</i> subspecies (Coates et al. 2013; Kolada et al. 2009a, 2009b).
	<ul style="list-style-type: none"> ▪ Total shrub canopy cover is greater than 40 percent (Coates and Delehanty 2010).
	<ul style="list-style-type: none"> ▪ Perennial grass cover (live and residual) is not less than 5 percent, but is greater than 10 percent if total shrub cover is less than 25 percent (Coates et al. 2013; Coates and Delehanty 2010; Kolada et al. 2009a, 2009b).
	<ul style="list-style-type: none"> ▪ Annual grass cover is less than 5 percent (Lokyer et al. [in press]).
	<ul style="list-style-type: none"> ▪ Perennial grass height provides overhead and lateral concealment from predators (Connelly et al. 2000; Stiver et al. 2015; Connelly et al. 2003; Hagen et al. 2007).
	<ul style="list-style-type: none"> ▪ Proximity of tall structures (1 meter above shrub canopy) is not within 3 miles (Gibson et al. 2013).

Category	Desired Condition
Brood-Rearing/ Summer	▪ Sagebrush canopy cover is 10 to 25 percent (Connelly et al. 2000).
	▪ Perennial grass and forb cover is greater than 15 percent combined (Connelly et al. 2000; Hagen et al. 2007).
	▪ Perennial forb canopy cover is >5% arid, >15% mesic for cover and food (Casazza et al. 2011; Lockyer et al. [in press]).
	▪ Grass/forb height is greater than 7 inches (Hagen et al. 2007).
	▪ Manage for proper functioning condition in riparian areas/meadows for food (Stivers et al. 2015).
	▪ Understory species in the vicinity of riparian areas/meadows diversity is greater than five species present (Casazza et al. 2011; Stiver et al. 2015).
	▪ For security meadow/ riparian edge (ratio of perimeter to area) is 0.2 within 522 foot (200 meter) buffer from center of data collection plot (Casazza et al. 2011).
Winter	▪ Winter habitat is composed of sagebrush plant communities with sagebrush canopy cover greater than 10 percent and sagebrush height greater than 25 centimeters (9.8 inches) above snow level (Connelly et al. 2000; USGS [in prep]).

Source: (For nesting, brood-rearing, and winter habitat condition) USDI Fish and Wildlife Service (2013). Braun, C.E. 2006. Blueprint for sage-grouse conservation and recovery. Grouse: Tucson, AZ. Coates, P.S. and D.J. Delehanty. 2010. Nest predation of greater sage grouse in relation to microhabitat factors and predators. Journal of Wildlife Management 74 (2): 240–248.

Common to Alternatives B and C: Seasonal Dates for the Bi-state DPS

These dates listed in Table 2-2 are to be used to evaluate and consider for impacts during project design and analysis unless site-specific information is available.

Table 2-2. Dates used to evaluate impacts unless site-specific information is available

Date	Impacts
March 1–May 15	Breeding (critical disturbance period; dates may shift 2 weeks back or forward in atypically dry or wet years based on observations of lek activity)
April 1–June 30	Nesting and early brood-rearing (critical disturbance period; dates may shift 2 weeks back or forward in atypically dry or wet years based on observations of lek activity)
July 1–September 15	Late brood-rearing
September 1–October 31	Fall
November 1–March 1	Winter

Common to Alternatives B and C: Goals and Objectives

Table 2-3 provides the detailed goals and objectives for the two action alternatives. Goals and objectives are developed to help the land management agency verbalize the long-term intent of the planning action and provide a means for measuring success moving toward the goals. These goals and objectives can apply to either the proposed action or the alternative to the proposed action. They are displayed in Table 2-3 as a set to provide the reader with an idea of what the standards and guidelines in the following table are intended to achieve over time. Goals 1, 2, and 3 were included in the draft EIS published in August 2013. Goals 4 (a, b, and c), and 5 were developed and included in the revised draft and then this final EIS to address the habitat restoration needs of the project area as they specifically relate to the increasing threat of wildfires and the role of invasive annual grasses. These goals and objectives are the same for both alternatives B and C.

Some objectives are repeated. Objective 1a for instance can be used to measure success toward meeting goal 1 and goals 4a and 5.

Table 2-3. Goals and objectives for alternatives B and C

<p>Goal 1: bi-state DPS habitat and movement corridors are managed to bring vegetation communities to their ecological site potential and to maintain or increase the species.</p> <p>Objective 1a: By 2024, 200,000 acres of degraded habitat (i.e., areas with conifer encroachment, invasive annual grasses, and/or altered fire regimes) have been improved through changes in management or restoration activities to meet habitat objectives.</p> <p>Objective 1b: By 2024, bi-state DPS populations will be at or above current levels.</p>
<p>Goal 2: bi-state DPS and habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.</p> <p>Objective 2a: By 2020, bi-state DPS productivity, survival, or use of seasonal habitats will be at least at the same level as they are in 2014.</p> <p>Objective 2b: By 2019, water developments (tanks and troughs) will be designed or retrofitted to decrease the risks of drowning or disease or as breeding sites for vectors such as mosquitos.</p> <p>Objective 2c: Saleable mineral pits determined to be no longer in use shall be reclaimed by the operator to meet sage grouse conservation objectives within 5 years of such determination.</p>
<p>Goal 3: In habitat, fuels treatments are used as a management tool when the benefits to bi-state DPS clearly outweigh the risks; otherwise fire is suppressed in bi-state DPS habitat after life and property.</p> <p>Objective 3a: By 2024, proactive fire prevention treatments will have been implemented in or adjacent to 30% of the identified habitat.</p> <p>Objective 3b: By 2019, risk of unwanted fire in habitat shall be 20% lower compared to conditions in 2014.</p>
<p>Goal 4a: Areas at risk of conversion to a degraded, disturbed, or invaded state are declining in size and distribution.</p> <p>Objective 1a: By 2024, 200,000 acres of degraded habitat (i.e., areas with conifer encroachment, invasive annual grasses, and/or altered fire regimes) have been improved through changes in management or restoration activities to meet habitat objectives.</p>
<p>Goal 4b: Reduction of fuel loads has reduced the risk of high severity fires in bi-state DPS habitat.</p> <p>Objective 4b: Over the next 10 years areas with annual invasive grass dominance are reduced across 20,000 acres of habitat.</p>
<p>Goal 4c: Bi-state DPS habitat has moderate to high resilience to disturbance and resistance to invasive annual grasses.</p> <p>Objective 4b: Over the next 10 years areas with annual invasive grass dominance are reduced across 20,000 acres of habitat.</p>
<p>Goal 5: Over the next 25 years, areas with ≥ 25 to 65% and areas with $> 65\%$ sagebrush cover are increasing through the implementation of integrated restoration strategies.</p> <p>Objective 1a: By 2024, 200,000 acres of degraded habitat (i.e., areas with conifer encroachment, invasive annual grasses, and/or altered fire regimes) have been improved through changes in management or restoration activities to meet habitat objectives.</p> <p>Objective 4b: Over the next 10 years areas with annual invasive grass dominance are reduced across 20,000 acres of habitat.</p> <p>Objective 5a: Over the next 10 years manage or restore habitat so that land cover provides adequate sagebrush habitat to meet sage grouse needs to maintain or increase current populations.</p>

Common to Alternatives B and C: Monitoring

Alternatives B and C would include monitoring questions and indicators as described in Table 2-4. Implementation of the amendment would include development of a monitoring technical guide. The monitoring technical guide would include details about methods or protocols to monitor the indicator. Changes to the guide would be made as necessary to maintain effectiveness and efficiency of the monitoring for the monitoring questions and indicators. The monitoring technical guide would not be part of the land use plans, and therefore, could be changed without a plan amendment or administrative change.

Table 2-4. Monitoring indicators by management question

Management Question	Monitoring Indicator
1. Are the Humboldt-Toiyabe National Forest and BLM progressing toward the habitat goals for the bi-state DPS?	<p>■ Miles, acres, and number of structures removed, installed, relocated, decommissioned, modified, or mitigated to benefit bi-state DPS habitat.</p> <p>■ Number of discretionary use authorizations issued that included beneficial protective measures to bi-state DPS and habitat.</p> <p>Acres of bi-state DPS habitat altered by fire</p> <p>Acres of burned habitat reseeded or replanted</p> <p>Acres of vegetation treated to benefit bi-state DPS</p> <p>Acres of treated vegetation that meet bi-state DPS habitat objectives</p>
2. Are the Humboldt-Toiyabe National Forest and BLM management progressing toward habitat goals maintaining or increasing the species?	■ Number of bi-state DPS leks.

Alternative A – No Action

Under the no-action alternative, current Forest Plan and BLM RMPs would continue to guide management of the plan amendment area and includes sensitive species direction (USDA Forest Service 1986 [as amended] and BLM RMP 2007). No Forest Plan or RMP (resource management plan) amendment would be approved for the purpose of conserving, enhancing, and/or restoring sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. Although the Forest Plan and BLM RMPs would not be amended, the agencies would continue to manage for the sage grouse. The BMPs (best management practices) used by the Forest to protect habitat would still be implemented on a project-to-project basis (for details see appendix A). The interim management direction signed in December 2012 for the Nevada BLM (see appendix A) would also dictate how projects conducted in sage grouse habitat are analyzed and implemented. The bi-state DPS is a Forest Service Region 4 sensitive species, included as “sage grouse” in the Forest Plan. Current Forest Plan management direction most pertinent to the conservation of bi-state DPS includes Wildlife and Fish, goal 1:

...sensitive species will be recognized and protected through habitat management and coordination with state wildlife agencies. Habitat will be in good-to-excellent condition.

Current Forest Plan management direction also includes standards for sage grouse habitat management (Wildlife and Fish, standard 3). Additionally, resource- or activity-specific management direction addressing wildlife, sensitive species, and sagebrush would continue to apply to the bi-state DPS. The current applicable management direction is displayed in Table 2-5.

The no-action alternative would not meet the purpose and need for this project. The catalyst for this project is the underlying need for the institution of regulatory mechanisms that sufficiently ensure that, as decision makers exercise their discretion, their decisions continue to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. While project-level decisions are being made that can move habitat toward this goal in the no-action alternative, no regulatory mechanisms (i.e., management direction) would be added to the plans. Since the insufficiency of existing regulatory mechanisms was identified as one of the threats to the species, the no-action alternative (current plans and direction) would not meet the need.

The no-action alternative represents the baseline for analysis. The current Forest Plan, BLM RMPs, and direction are the baseline—the direction we would continue to follow for every project proposed in the amendment area. The no-action alternative allows us to address all issues described in chapter 1, “Issues.”

It represents the current level of access and the current state of the economy. Any changes from those current states can then be used to measure the amount of departure that would result from the proposed amendment and alternative.

Alternatives B and C: Standards and Guidelines

Table 2-5 lists standards and guidelines for each action alternative as well as current standards and guidelines for comparison with alternative A (no action). Standards and guidelines are used during the development and, as appropriate, administration of projects or activities to ensure that their implementation would result in progress toward or not hindering achievement of desired future conditions, goals, and objectives. Decision makers for projects and activities must ensure that standards are followed. They must also ensure that guidelines are followed unless analysis demonstrates that the purpose for the guideline can be met without it being applied.

Note for Table 2-5: The term “habitat” in the standards and guidelines refers to bi-state DPS habitat. The unique identifier of each standard and guideline for the action alternatives follows the following protocol: Alternative-resource-standard or guideline-unique number. For example, B-AR-G-01 means: alternative B-access/recreation-guideline-01.

Table 2-5. Standards and guidelines for alternatives B and C, compared to alternative A (no action)

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
All Resources	No existing direction.	*B-S-01: Project proposals shall include best management practices for each resource as appropriate to restore, conserve, and enhance bi-state DPS and its habitat.	C-S-01: Project proposals shall include best management practices for each resource as appropriate to restore, conserve, and enhance bi-state DPS and its habitat.	Same as B-S-01.
Access/ Recreation	Access is managed through travel management plans and interim direction for minimizing impacts to bi-state DPS.	*B-AR-G-01: Use existing roads and co-locate powerlines, pipelines, and other linear features whenever possible to reduce disturbance and habitat fragmentation and to minimize disturbance footprint of rights-of-way (ROWs) in bi-state habitat.	C-AR-G-01: Use existing developed routes to provide access and minimize the disturbance footprint of ROWs in bi-state habitat.	BLM BMP: Same as B-AR-G-01.
	No existing direction.	B-AR-G-02: Authorize new roads only when necessary for public safety, administrative, or public need to accommodate valid existing rights and to minimize disturbance footprint of ROWs in bi-state habitat.	C-AR-S-01: Authorize new roads only when necessary for public safety, administrative, or public need to accommodate valid existing rights up to 3% total anthropogenic disturbance limit.	Same as B-AR-S-02.
	Motor vehicle use is managed under travel management plans. The BLM allows cross-country travel in a portion of the planning area.	*B-AR-S-01: Motor vehicle use off designated national forest system (NFS) roads and trails is prohibited.	C-AR-S-02: Motor vehicle use off designated NFS roads and trails or existing roads and trails is prohibited.	No proposed additions (covered by B-AR-S-02).
	No existing direction.	*B-AR-S-02: Manage as limited to existing roads, primitive roads, and trails for motorized travel until subsequent route designation occurs.	Same as alternative B.	Same as B-AR-S-02.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Access/ Recreation (continued)	Off-highway vehicle events are permitted using existing direction designed to reduce impacts to resources. Permits are granted on a case-by-case basis after environmental analysis.	*B-AR-S-03: Between March 1 and May 15, off-highway vehicle events that pass within a 3 miles an active lek shall only take place during daylight hours after 10 a.m.	C-AR-S-03: Do not authorize off-highway vehicle events.	BLM-01: Implement time-of-year and time-of-day travel restrictions from March 1 and May 15, for special recreation permits and project-related activities that pass within 3 miles of an active lek. Time of year restrictions and distance may be expanded to include wintering, nesting, or brood-rearing habitat.
	No existing direction.	*B-AR-S-04: Do not authorize off-highway vehicle events within winter habitats November 1 to March 1.	Same as C-AR-S-03.	BLM-02: Special recreation permits will not be authorized within occupied winter bi-state habitat between November 1 and March 1.
	No existing direction.	B-AR-S-05: Prohibit new recreation facilities unless they will have a neutral or beneficial effect to bi-state DPS up to 3% total anthropogenic disturbance limit.	*C-AR-S-04: Prohibit new recreation facilities in bi-state DPS habitat (e.g., campgrounds, day use areas, scenic pullouts, trailheads, trails, etc.).	Same as C-AR-S-04.
Land Use/Special Use	New rights-of-way are permitted after environmental analysis. Co-location could be required depending on site-specific issues and potential impacts.	*B-LUSU-G-01: Co-locate new ROWs within and/or adjacent to existing ROWs and to minimize disturbance footprint of ROWs in bi-state habitat.	Same as alternative B.	BLM BMP: Same as B-LUSU-G-01.
	No existing direction.	No proposed direction.	*C-LUSU-S-01: Do not grant new ROWs. If valid existing rights apply, co-locate new ROWs within existing ROWs or where it minimizes impacts to bi-state DPS habitat.	No proposed additions (covered by B-LUSU-G-01).

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Land Use/Special Uses (continued)	No existing direction.	*B-LUSU-G-02 Industrial wind facilities associated (on site) with existing industrial infrastructure (e.g., a mine site) may be authorized to provide onsite power generation and to minimize disturbance footprint of ROWs in bi-state habitat.	*C-LUSU-S-02: Do not authorize utility-scale commercial wind energy facilities.	BLM -03: Manage bi-state DPS habitat as a ROW exclusion area for utility-scale wind development.
	Lands special use proposals are analyzed through site-specific environmental analysis. Stipulations are included to minimize impacts to resources.	*B-LUSU-G-03: Industrial solar energy facilities (on site) associated with existing industrial infrastructure (e.g., a mine site) may be authorized to provide on-site power generation and minimize the disturbance footprint related to powerlines in habitat.	*C-LUSU-S-03: Do not authorize utility-scale solar energy facilities.	BLM-04: Manage bi-state DPS habitat as a ROW exclusion area for utility-scale solar development.
	No existing direction.	B-LUSU-S-01: Do not install tall structures that could serve as predator perches within 2 miles of a lek.	*C-LUSU-S-04: Do not install tall structures that could serve as predator perches within 4 miles of an active or pending lek.	Same as B-LUSU-S-01.
	No existing direction.	*B-LUSU-S-02: No structures taller than the surrounding vegetation that could serve as predator perches shall be installed unless they are equipped with anti-perching devices.	Same as alternative B.	No proposed addition (covered by C-LUSU-S-04).
	No existing direction.	*B-LUSU-S-03: Federal lands shall be retained unless a public interest determination identifies a net benefit to bi-state DPS habitat.	Same as alternative B.	Same as B-LUSU-S-03.
	Outfitter-guide activities are permitted on a case-by-case basis through environmental analysis. Stipulations may be included which are designed to minimize impacts to resources.	*B-LUSU-S-04: Do not authorize outfitter-guide activities that occur within 0.25 mile of active leks from March 1 to May 15.	C-LUSU-S-05: Do not authorize outfitter-guide activities that occur within 4 miles of active leks from March 1 to May 15.	No proposed additions (covered by BLM-01 and BLM-02).

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Land Use/Special Uses (continued)	No existing direction.	*B-LUSU-S-05: Land acquisition plan shall include all inholdings that include bi-state DPS habitat within NFS boundaries.	Same as alternative B.	BLM-05: Acquire lands or interests in lands when there is an opportunity to protect and/or enhance bi-state habitat.
	Most permits have language that authorizes the use, maintenance, and removal of improvements. Where the ROW itself is a historic feature, or the reclamation work may have additional unwanted adverse effects that outweigh the benefits, reclamation is not required.	*B-LUSU-S-06: When informed that a ROW is no longer in use, relinquish the ROW and reclaim the site by removing powerlines, reclaiming roads, and removing other infrastructure, where such reclamation work does not have unwanted adverse effects.	Same as alternative B.	BLM-06: ROWs no longer in use will be relinquished and reclaimed, where such reclamation work does not have unwanted adverse effects.
	Special use permits are issued on a case-by-case basis after environmental analysis, and may include stipulations to mitigate impacts to resources.	*B-LUSU-S-07: Require proper containment and prompt removal of refuse to avoid attracting predators.	C-LUSU-S-6: Require proper containment and prompt removal of refuse to avoid attracting predators.	BLM BMP: Same as B-LUSU-S-07.
	The authorized officer has the ability to change stipulations of existing permits.	*B-LUSU-G-04: Require permit holders to retro-fit existing powerlines and other utility structures with perch-detering devices during ROW renewal process. The intent is to reduce perch opportunities for avian predators.	Same as alternative B.	BLM BMP: Existing powerlines and other utility structures will be retro-fitted with perch-detering devices during the ROW renewal process.
	Permits for lands special uses are completed using site-specific environmental analysis.	B-LUSU-S-08: Do not install tall structures that could serve as predator perches within 2 miles of a lek.	C-LUSU-S-8: Do not install tall structures that could serve as predator perches within 4 miles of an active or pending lek.	No proposed additions (covered by C-LUSU-S-04).
	No existing direction.	*B-LUSU-S-09: Do not install structures greater than 8-feet tall that could serve as predator perches unless they are equipped with anti-perching devices.	Same as alternative B.	No proposed additions (covered by C-LUSU-S-04).

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Land Use/Special Uses (continued)	No existing direction.	B-LUSU-G-05: Authorize new communication sites as long as development incorporates appropriate required design features and buffers in design and construction (e.g., noise, tall structure, seasonal restrictions, etc.) and development results in no net unmitigated loss of habitat and to minimize disturbance foot print in habitat.	*C-LUSU-S-09: Do not authorize new communication sites in bi-state DPS habitat.	BLM-07: New communication sites will not be authorized within bi-state DPS habitat.
	Permits involving powerlines are issued on a case-by-case basis after environmental analysis. Burial of powerlines may be required on a site-specific basis.	*B-LUSU-G-06: Where feasible, bury powerlines to reduce overhead perches for avian predators.	C-LUSU-S-10: Where feasible, bury powerlines to reduce overhead perches for predators.	BLM BMP: Where feasible, bury new powerlines to reduce overhead perches.
Wildlife	Humboldt-Toiyabe National Forest: The following standards apply to sage grouse habitats (Forest S&G Range PG IV-49 S&G 27).	*B-Wild-S-01: Any vegetation treatment shall maintain, improve, or restore bi-state DPS habitat.	Same as alternative B.	Same as B-Wild-S-01.
	■Use dropping casts, sage grouse sightings, and historical records to reveal location and importance of bi-state DPS habitat.	No proposed direction.	No proposed additions.	No proposed additions.
	■Maintain 20 to 55% canopy cover on bi-state DPS range.	No proposed direction.	No proposed additions.	No proposed additions.
	■Use irregularly designed patterns when manipulating brush in bi-state DPS habitat.	No proposed direction.	No proposed additions.	No proposed additions.
	■Maintain meadows in bi-state DPS range in high ecological status. Where meadows have lost their natural characteristics because of lowered water table, trampling, overgrazing, road building, or for other reasons, take measures to restore the meadows.	No proposed direction.	No proposed additions.	No proposed additions.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Wildlife (continued)	■Maintain desirable sagebrush habitat within 2 miles of leks.	No proposed direction.	No proposed additions.	No proposed additions.
	■Retain irregular, lean strips of untreated sagebrush approximately 100-yards wide adjacent to stream bottoms and meadows.	No proposed direction.	No proposed additions.	No proposed additions.
	■Include the use of a combination of forbs and grasses desirable to bi-state DPS when rehabilitating sage grouse habitat.	*B-Wild-G-01: Use seed for perennial grasses and forbs adapted to local conditions to increase cover of these species. The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat and or mitigating disturbance.	Blank	BLM BMP: B-Wild-G-01.
	Humboldt-Toiyabe National Forest: Manage ecosystems containing sensitive plant and animal and threatened and endangered animal populations to maintain or increase these populations and to achieve recovery (Forest S&G Range PG IV-49 S&G 4).	Blank	*C-Wild-S-02: Vegetation treatments and post-disturbance restoration shall seed and/or transplant sagebrush to restore large patches of sagebrush cover and connect existing patches.	Same as C-Wild-S-02.
	Same as above.	B-Wild-S-02: When long-term negative impacts from nondiscretionary actions are unavoidable, require mitigations to result in no net loss of habitat.	*C-Wild-S-03: Require site-specific project mitigation if needed to insure no net loss of habitat due to project disturbance.	Same as C-Wild-S-03.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Wildlife (continued)	Same as above	*B-Wild-S-03: Habitat restoration projects shall meet one or more of the following habitat needs: Promote the maintenance of large, intact sagebrush communities; limit the expansion or dominance of invasive species, including cheatgrass; maintain or improve soil site stability, hydrologic function, and biological integrity; and enhance the native plant community.	C-Wild S-04: Total anthropogenic disturbances shall affect no more than 3% of the total bi-state DPS habitat on Federal lands within the Bodie Mountain/Grant, Desert Creek/Fales, and White Mountains population management unit boundaries.	Same as B-Wild-S-03.
	Humboldt-Toiyabe National Forest: Manage habitats of wolverine, Mount Lyell salamander, yellow warbler, and other wildlife species that may have declining populations or narrow habitat requirements, to assure viable populations and reasonable distributions. Encourage surveys and other data gathering activities for these species (Forest S&G Range PG IV-50 S&G 9).	*Same as B-Wild-S-03.	C-Wild S-05 Total anthropogenic disturbances shall affect no more than 1.5% of the total bi-state DPS habitat on Federal lands within the Pine Nut Mountains Population Management Unit boundaries.	No proposed additions.
	Humboldt-Toiyabe National Forest: Manage habitats of wolverine, Mount Lyell salamander, yellow warbler, and other wildlife species that may have declining populations or narrow habitat requirements, to assure viable populations and reasonable distributions. Encourage surveys and other data gathering activities for these species (Forest S&G Range PG IV-50 S&G 9).	*B-Wild-S-04: Time implementation of habitat restoration projects so that impacts to bi-state DPS individuals and populations are limited by duration, scope, and scale.	Same as C-Wild-S-04.	BLM BMP: Same as B-Wild-S-04.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Wildlife (continued)	When possible, native seed is used based on availability and probability of success and site potential.	*B-Wild-G-02: When re-seeding use genetically and climatically appropriate and certified weed-free plant and seed material. Use native seed when available. The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat or mitigating disturbance.	C-Wild S-06: When re-seeding use genetically and climatically appropriate and certified weed-free plant and seed materials. Use native seed when available.	Same as C-Wild-S-06.
	Carson City District: BLM will adhere to current habitat modification guidelines prepared by the Western Sage Grouse Committee of the Western Association of Fish and Wildlife Agencies.	*B-Wild-S-05: Mitigate long-term negative impacts from discretionary or nondiscretionary activities to the extent practicable.	Same as C-Wild-S-03.	Same as B-Wild-S-05.
	Battle Mountain District: Activities in key fish and wildlife areas will, when necessary, be restricted during periods of breeding, nesting, spawning, lambing, or calving activity, and during major migrations of fish and wildlife.	*B-Wild-S-06: Require buffers, timing limitations, or offsite habitat restoration for new or renewed discretionary actions to mitigate potential long-term negative impacts.	Same as C-Wild-S-03.	Same as B-Wild-S-06.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Wildlife (continued)	Battle Mountain District: Fish and wildlife habitat will continue to be evaluated as part of project-level planning. Such evaluation will consider the significance of the proposed project and the sensitivity of fish and wildlife habitat in the affected area. Stipulations will be attached as appropriate to assure compatibility of projects with management objectives for fish and wildlife habitat. Habitat improvement projects will be implemented where necessary to stabilize or improve unsatisfactory or declining wildlife habitat condition. Such projects will be identified through habitat management plans or other activity plans.	*B-Wild-S-07: After soil disturbances or seeding, do not authorize soil-disturbing uses for a minimum of two annual growing cycles or until desired habitat conditions and project objectives have been met, whichever is longer.	Same as C-Wild-S-04 and C-Wild S-05.	Same as B-Wild-S-07.
	Battle Mountain District: Sufficient forage and cover will be provided for wildlife. Forage and cover requirements will be incorporated into allotment management plans or their functional equivalent and will apply to specific areas of primary wildlife use.	Same as C-Wild-G-01.	*C-Wild-G-01: Restore native (or desirable) plants and create landscape patterns which most benefit the bi-state DPS. The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat or mitigating disturbance.	BLM BMP: C-Wild-G-01.
	No existing direction.	Same as C-Wild-G-02.	*C-Wild-G-02: Consider seed collection from the warmer component of the species current range when selecting native species for restoration (Kramer and Havens 2009). The intent is to use hardy climate tolerant native species to help move habitat toward desired habitat conditions (Table 2-1) when restoring habitat and or mitigating disturbance.	BLM BMP: Same as C-Wild-G-02.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Wildlife (continued)	No existing direction.	Same as C-Wild-G-03.	*C-Wild-G-03: Remove phase 1 and 2 pinyon-juniper located in habitat during habitat restoration projects, with the intent to maintain sage brush habitat prior to establishment of forest species.	BLM BMP: Same as C-Wild-G-03.
	No existing direction.	*B-Wild-G-03: Restoration work limited to the use of hand tools (chainsaws, axes, handsaws, post pullers, wire cutters, and loppers) and foot travel off designated routes in pre-phase I and phase I pinyon may occur during nesting, brood-rearing, and fall seasons (April 1 to October 31) The intent of the guideline is to allow restoration work to occur during a flexible time frame.	Same as B-Wild-G-03.	Same as B-Wild-G-03.
Range: Permitting	Forest Service and BLM grazing management is focused on achieving healthy rangelands, but no specific standards for bi-state DPS habitat objectives are used.	*B-RP-S-01: Grazing permits, annual operating instructions, or other appropriate mechanism for livestock management shall include terms, conditions, and direction to move toward or maintain bi-state DPS habitat desired conditions.	C-RP-S-01: Grazing allotments containing bi-state DPS habitat shall be closed to livestock grazing.	Same as B-RP-S-01.
Range: Utilization Standards	Utilization standards have been established for Forest Service grazing allotments. The standards vary widely across the districts.	*B-RU-S-01: Manage livestock grazing to maintain residual cover of herbaceous vegetation so as to reduce predation during breeding/nesting season (March 1 to June 30) within 3 miles of active lek sites.	Same as C-RP-S-01.	Same as B-RU-S-01.
	No existing direction.	*B-RU-S-02: Manage livestock grazing in accordance with the utilization standards in Table 2-6.	Same as C-RP-S-01.	Same as B-RU-S-02.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Range: Improve-ments (All)	No range improvement standards specific to bi-state DPS habitat exist.	*B-RI-S-01: Remove fences and other infrastructure associated with livestock grazing negatively impacting bi-state DPS and its habitats.	Same as alternative B.	Same as B-RI-S-01.
	No existing direction.	*B-RI-S-02: Any new structural range improvements and location of supplements (salt or protein blocks) shall not retard the conservation, enhancement, or restoration of bi-state DPS habitat.	Same as C-RP-S-01.	Same as B-RI-S-02.
Range: Improve-ments (Fences)	No range improvement standards specific to bi-state DPS habitat exist.	*B-RI-S-03: No new structures taller than the dominant surrounding vegetation that could serve as predator perches shall be installed within 2 miles of a lek.	Same as C-RP-S-01.	No proposed additions (covered by C-LUSU-S-04).
	No existing direction.	*B-RI-G-01: To the extent possible, do not install fences unless to protect habitat or for human health and safety. If fences must be installed, they should be at least 1.2 miles from active and pending leks, and if possible, should be let-down fences when not needed for the purpose of their installation with the intent to reduce perch opportunities for avian predators and to reduce risk of collision.	Same as alternative B.	BLM BMP: Same as B-RI-G-01.
	No existing direction.	*B-RI-S-04: To reduce bi-state DPS mortality, remove, modify, or mark fences in sage grouse habitat based on nearest proximity to lek, lek size, and topography where fence densities exceed 1.6 miles of fence per section (640 acres).	Same as alternative B.	Same as B-RI-S-04.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Range: Improvements (Water)	No range improvement standards specific to bi-state DPS habitat exist.	*B-RI-S-05: Water developments (tanks/troughs) shall be drained when not in use, unless they are needed by other species, so they do not create a breeding ground for mosquitos that carry West Nile Virus.	Same as alternative B.	Same as B-RI-S-05.
	No existing direction.	*B-RI-S-06: Wildlife escape ramps shall be installed and maintained in water troughs or open water facilities with vertical embankments that pose a drowning risk to birds.	Same as alternative B.	Same as B-RI-S-06.
	No existing direction.	*B-RI-S-07: Water developments at springs and seeps shall be maintained to preserve the continuity of predevelopment riparian areas. Modifications to the developments shall be neutral or beneficial to the bi-state DPS.	Same as alternative B.	Same as B-RI-S-07.
	No existing direction.	*B-RI-G-02: Authorize new water development for diversion from spring or seep source only when habitat would benefit from the development. The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat or mitigating disturbance.	Same as alternative B.	BLM BMP: Same as B-RI-G-02.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Range: Improvements (Water/ Handling)	No range improvement standards specific to bi-state DPS habitat exist.	*B-RI-S-08: Livestock watering and handling facilities (corrals, chutes, dipping vats, etc.) or sheep bedding grounds shall not be located within 2 miles of an active lek and 0.6 miles from riparian areas.	Same as C-RP-S-01.	Same as B-RI-S-08.
	No existing direction.	*B-RI-S-09: Salting or supplemental feeding stations shall not be located within 2 miles of an active lek and 0.6 miles from riparian areas.	Same as C-RP-S-01.	Same as B-RI-S-09.
Range: Improvements (Handling)	No range improvement standards specific to bi-state DPS habitat exist.	*B-LUSU-S-10: No structures greater than 8-feet tall that could serve as predator perches shall be installed within bi-state DPS habitat unless they are equipped with anti-perching devices.	C-RI-S-01: Remove all range improvements greater than 8-feet tall that could serve as predator perches within bi-state DPS habitat.	Same as C-LUSU-S-04.
Weeds	Current BLM- and Forest Service-integrated pest management plans allow for the use of biological pest controls that could include the use of domestic livestock.	*B-Weed G-01: Grazing may be used to target removal of cheatgrass or other vegetation hindering bi-state DPS objectives to move habitat toward desired habitat conditions (Table 2-1) when restoring habitat and or mitigating disturbance. Sheep, goats, or cattle may be used as long as the animals are intensely managed and removed when the utilization of desirable species reaches 35%.	Same as alternative B.	BLM BMP: Same as B-Weed-G-01.
	No existing direction.	No proposed direction.	*C-Weed-S-01: Fires in moderate to low resilience and resistance sagebrush and wooded shrublands shall be suppressed to prevent an invasive annual grass-fire cycle.	Same as C-Weed-S-01.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Weeds (continued)	Allow no livestock grazing for two grazing seasons after prescribed or natural fires and plantings or seedings.	*B-Weed-S-01: After soil disturbances or seeding, the land shall not be returned to soil-disturbing authorized uses for a minimum of two annual growing cycles or until desired habitat conditions or project objectives have been met, whichever is longer.	Same as C-RPS-01.	No proposed addition (covered by B-WILD-S-07).
	No existing direction.	No proposed direction.	*C-Weed-S02: Treatment methodologies are based on the treatment area's resistance to annual invasive grasses and the resilience of native vegetation to respond after disturbance: (1) use mechanical treatments (i.e., do not use fire) in areas with relatively low resistance to annuals, and (2) treat areas in early-to mid-phase pinyon-juniper expansion.	Same as C-Weed-S-02.
	No timing restrictions or chemical restrictions are currently in place within bi-state DPS habitats.	*B-Weed-S-02: Use pesticides/herbicides only outside of the critical disturbance periods and only if other integrated pest management approaches are inadequate or infeasible. Only use chemicals with the lowest toxicity to birds that still provide control in coordination with USDA or APHIS, depending of the targeted pest.	Same as alternative B.	Same as B-Weed-S-02.
	No existing direction.	*B-Weed-S-03: Agency personnel, contractors, and permit holders working in areas with known weed infestations shall clean vehicles of dirt, mud, and visible plant debris before entering a different area to reduce the spread of noxious weeds.	Same as alternative B.	Same as B-Weed-S-03.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Weeds (continued)	No existing direction.	No proposed direction.	*C-Weed-S03: Annual invasive grasses shall be controlled or suppressed using an integrated strategy.	Same as C-Weed-S-03.
	No existing direction.	No proposed direction.	*C-Weed-G-01: Require aggressive treatment of new weed or annual grass infestation for any surface-disturbing or other activity that is likely to cause or promote the introduction or infestation and to control the potential spread of noxious and invasive annual grass species.	BLM BMP: Same as C-Weed-G-01.
Wild Horse/ Burro	Forest Service and BLM wild horse and burro management is focused on achieving healthy rangelands, but no specific standards for bi-state DPS habitat objectives are used.	*B-WHB-S-01: Appropriate management levels in territories and herd management areas with habitat shall be based on the structure, condition, and composition of vegetation needed to achieve bi-state DPS habitat objectives.	Same as B-WHB-S-01.	Same as B-WHB-S-01.
Minerals General	Application of standards and guidelines to mineral resource management is subject to valid existing rights and in some cases technical feasibility. For instance, not all pipelines can be buried for technical reasons; and not all drilling operations can be conducted using a closed-loop system.	No proposed direction.	No proposed direction.	No proposed direction.
	No existing direction.	*B-Min-S-01: For new and existing leases in habitat, limit offsite noise to less than 10 decibels (dB) above ambient measures from 2 hours before until 2 hours after at sunrise at the perimeter of a lek during active lek season.	Same as B-Min-S-01.	Same as B-Min-S-01.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Minerals General (continued)	No existing direction.	*B-Min-S-02: In habitat, limit offsite noise to less than 10 decibels (dbA) above ambient measures from 2 hours before until 2 hours after at sunrise at the perimeter of a lek during active lek season.	Same as B-Min-S-02.	No proposed additions (covered by B-Min-S-01).
	No existing direction.	*B-Min-S-03: Apply timing restrictions in all bi-state DPS habitat areas to avoid construction, drilling, completion, and reclamation activities, including those of exploratory wildcat wells within seasonal habitat periods.	Same as B-Min-S-03.	Not applicable.
	No existing direction.	*B-Min-G-01: Concentrate disturbance/facilities to reduce spatial impact to habitat. The intent of the guideline is to minimize disturbance footprint wherever possible.	Same as B-Min-G-01.	BLM BMP: Same as B-Min-G-01.
	No existing direction.	B-Min-G-02: In connective area, maintain vegetation characteristics suitable to bi-state DPS to the extent technically feasible. The intent of the guideline is to minimize disturbance footprint wherever possible.	*C-Min-S-01: In connective area, maintain vegetation characteristics suitable to bi-state DPS to the extent technically feasible.	Not applicable.
	No existing direction.	B-Min-G-03: Control fugitive dust on roads and pads. The intent of this guideline is to reduce dust where it can adversely impact habitat.	*C-Min-S-02: Control fugitive dust on roads and pads.	Same as C-Min-S-02.
	No existing direction.	*B-Min-S-04: Require a full reclamation bond specific to the site. Insure bonds are sufficient for costs relative to reclamation that would result in full restoration in habitat.	Same as B-Min-S-04.	Same as B-Min-S-04.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Minerals General (continued)	No existing direction.	B-Min-G-04: Use areas with prior disturbance to site infrastructure. The intent of the guideline is to minimize disturbance foot print wherever possible.	*C-Min-S-03: Use areas with prior disturbance to site infrastructure.	BLM BMP: Same as B-Min-S-04.
	No existing direction.	B-Min-S-06: Camps for workers shall be located outside habitat.	Same as B-Min-S-06.	BLM BMP: Same as B-Min-S-06.
Fluid Minerals	No leasing decision has been analyzed for Forest Service lands. BLM has made a leasing decision.	B-Min-G-05: Limit disturbances to an average of one site per 640 acres on average, with no more than 3% total anthropogenic surface disturbances. The intent of the guideline is to minimize disturbance foot print wherever possible.	*C-Min-S-04: For fluid minerals do not consent to leasing unless only under no-surface-occupancy stipulations without exceptions, modifications or stipulations.	BLM-08: Apply a no-surface-occupancy stipulation for fluid mineral leasing in bi-state DPS habitat with no exceptions, modifications, and waivers.
	For geothermal BLM has a 2008 EIS making leasing decisions on most lands. This lease contains lands which have been identified as bi-state DPS brood rearing areas subject to seasonal protection from disturbance. Seasonal restrictions from disturbance in bi-state DPS brood rearing areas apply within 0.5 miles or other appropriate distance based on site-specific conditions from May 15 to August 15, inclusive. This restriction does not apply to operating facilities. Also, the interim IMs that address sage grouse prior to the planning decision are also applicable.	*B-Min-S-07: Require seasonal restriction November 1 to March 1 on geophysical exploration within winter habitats.	Same as B-Min-S-07.	Same as B-Min-S-07.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Fluid Minerals (continued)	No existing direction.	*B-Min-G-06: Allow geophysical exploration to obtain exploratory information for areas outside of and adjacent to habitat to provide continued opportunities outside that would not disturb bi-state DPS habitat.	Same as B-Min-G-06.	BLM BMP: Same as B-Min-G-06.
	No existing direction.	*B-Min-S-08: Require reclamation for geophysical exploration operations to meet bi-state DPS desired conditions.	Same as B-Min-S-08.	Same as B-Min-S-08.
	No existing direction.	B-Min-S-09: Apply the least invasive seismic exploratory method in habitat.	*Same as C-MIN-S-04.	Same as B-Min-S-09.
	The BLM has completed a leasing decision for oil and gas for the BLM lands in the study area; however, there are no authorized oil and gas leases in the study area and there is no oil and gas leasing decision on the Forest Service lands.	*B-Min-G-07: Incorporate mitigation to offset all proposed surface disturbance that would result in loss of habitat. Mitigate first within the same population area where the disturbance is realized, and if not possible, within an adjacent habitat. The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat or mitigating disturbance.	Same as C-MIN-S-04.	Not applicable.
	No existing direction.	*B-Min-G-08: If the lease is entirely within the habitat, any development should be placed in an area that would be the least harmful to bi-state DPS, primarily through limiting ground disturbance, to minimize the disturbance footprint in habitat.	Same as B-Min-G-08.	Not applicable.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Fluid Minerals (continued)	No existing direction.	B-Min-G-09: All commercial pipelines should be buried where possible, to reduce perch opportunities for avian predators and to reduce need for linear maintenance corridors. Surface vegetation standards and guidelines would apply.	*C-Min-S-5: All commercial pipelines shall be buried where possible.	Not applicable.
	No existing direction.	No proposed direction.	*C-Min-S-06: Upon expiration or termination of existing leases, do not consent to leasing if inquired by the BLM.	BLM-09: Upon expiration or termination of existing leases, apply a no-surface-occupancy stipulation for fluid mineral leasing in bi-state DPS habitat with no exceptions, modifications, and waivers.
	No existing direction.	*B-Min-S-10: Require reclamation of disturbed areas to meet desired conditions for habitat when facilities are no longer needed or leases are relinquished.	Same as alternative B.	Not applicable.
	No existing direction.	B-Min-G-10: Use closed-loop systems for drilling operations, with no reserve pits when technically feasible. The intent is to reduce disturbance footprint in habitat and avoid creation of poisonous water source.	*C-Min-S-07: Use closed-loop systems for drilling operations, with no reserve pits when technically feasible.	Not applicable.
	No existing direction.	B-Min-G-11: Use noise shields when drilling during the lek, nesting, brood-rearing, and wintering seasons. With the intent to reduce disturbance from noise in proximity to leks, nesting, and broad-rearing habitats.	*C-Min-S-08: Use noise shields when drilling during the lek, nesting, brood-rearing, and wintering seasons.	Not applicable.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Fluid Minerals (continued)	No existing direction.	B-Min-S-11: Do not authorize construction of new high-power (120 kV) transmission towers unless there are no other corridor options.	*C-Min-S-09: Do not authorize new high-power (120 kV) transmission line corridors, transmission line ROWs, transmission line construction, or transmission line facility construction in habitat outside existing corridors.	No proposed additions (covered by C-LUSU-S-04).
	No existing direction.	B-Min-S-12: Transmission towers (120 kV) must be constructed with anti-perching devices to discourage use by raptors.	Not applicable as a result of C-Min-S-09.	No proposed additions (covered by C-LUSU-S-04).
	No existing direction.	B-Min-S-13: Do not authorize new fences unless necessary for safety or environmental protection reasons. If fences are necessary, require a safe design for bi-state DPS (e.g., marking).	Same as B-Min-S-13.	BLM-10: New fences will not be authorized unless necessary for safety or environmental protection reasons.
	No existing direction.	*B-Min-S-14: Require removal of transmission lines and roads that are no longer needed.	Same as B-Min-S-14.	No proposed additions (covered by BLM-06).
Solid Leasable Minerals:	No existing direction.	B-Min-G-12: Incorporate noise reduction design elements for new compressor stations. With the intent to reduce disturbance from noise in proximity to leks, nesting and broad rearing habitats.	*C-Min-S-10: Do not authorize new compressor stations inside habitats.	Not applicable.
	No existing direction.	No proposed direction.	*C-Min-S-011: Do not consent to solid mineral lease in habitat.	BLM-11: Close bi-state DPS habitat to non-energy leasable minerals.
	Mineral materials can be disposed and must follow the BLM IM interim management direction.	B-Min-G-13: Request that the BLM not authorize new mine facilities on the surface unless there is no technically feasible alternative, and it has demonstrated no net loss of habitat, to minimize the disturbance footprint in habitat.	*C-Min-S-12: Request that the BLM not issue permits for solid leasable mineral prospecting or mining in habitat.	Not applicable.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Solid Leasable Minerals:	No existing direction	*B-Min-G-14: If new mine facilities must be placed in habitat, then co-locate facilities in existing disturbed areas and authorize them to the minimum size necessary to reduce the disturbance footprint in habitat.	Same as B-Min-G-14.	Not applicable.
Minerals: Mineral Materials	No existing direction.	*B-Min-S-15: Do not authorize new pits or prospecting permits in bi-state DPS habitat.	C-Min-S-13: Do not allow new sale of mineral materials in habitat.	BLM-12: Close bi-state DPS habitat to mineral material disposal.
	No existing direction.	*B-Min-S-16: Authorize mineral material use and expansion of existing pits only with no unmitigated net loss of habitat.	C-Min-S-14: Prohibit expansion of existing mineral material sites.	BLM-13: Authorize existing mineral material use and expansion of existing pits only with no unmitigated net loss of habitat.
	No existing direction.	*B-Min-S-17: Permits for existing mineral material sites shall require an approved pit development operating plan that minimizes impacts to bi-state DPS and other resources.	C-Min-S-15: Do not allow new sale of mineral materials in bi-state DPS habitat.	Same as B-Min-S-17.
	No existing direction.	*B-Min-S-18 Any contract or permit for mineral material operations, except for disposals from community sites and common-use areas, shall include requirements for reclamation of the site to meet bi-state DPS habitat objectives.	Same as C-MIN-S-15.	BLM-14: Any contract or permit for mineral material operations, except for disposals from existing community sites and common-use areas, shall include requirements for reclamation of the site to meet bi-state DPS habitat objectives.
	No existing direction.	*B-Min-S-19 Ensure no net unmitigated loss at existing mineral material sites in habitat.	C-Min-S-17: Prohibit expansion of existing mineral material sites.	Same as B-Min-S-19.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Mineral Materials (continued)	No existing direction.	B-Min-S-20: Where the Federal government owns the surface, and the mineral estate is in non-Federal ownership, require an approved pit development plan.	Same as B-Min-S-20.	Same as B-Min-S-20.
Locatable Minerals	Outside of wilderness, wilderness study areas, and withdrawn areas, the mineral estate is locatable. On BLM lands with unpatented mining claims, projects can be proposed. On Forest Service land no unpatented claims are necessary as long as the land is open to entry. BLM minerals are handled under 43 CFR 3809 and Forest Service minerals under 36 CFR 228 subpart A.	*B-Min-S-21: Mitigate long-term negative impacts in habitat from discretionary or nondiscretionary activities to the extent practicable.	C-Min-S-18: Petition the BLM to withdraw locatable minerals.	Same as B-Min-S-21.
Fire Suppression	Use planned and unplanned ignitions to restore natural ecosystems in wilderness and other areas where appropriate.	*B-Fire-G-01: Do not use fire as a management tool in areas where the risk of escaped fire could cause negative long-term impacts during wildfire situations.	*C-Fire-S-01: Fires in moderate to low resilience and resistance sagebrush and wooded shrublands shall be suppressed to prevent an invasive annual grass-fire cycle.	No proposed addition (covered by C-Weed-S-01). BLM BMP: Same as B-Fire-G-01.
	All wildfires will receive an appropriate suppression response.	*B-Fire-G-02: In bi-state DPS habitat areas, prioritize suppression, immediately after life and property, to conserve the habitat during wildfire situations.	Same as alternative B.	BLM BMP: Same as B-Fire-G-02.
	Appropriate responses are confinement, containment, or control.	*B-Fire-G-03: Suppress wildfire threatening unburned habitat contained within a broader burn perimeter.	*C-Fire-G-01: Vegetation treatments should include fuel breaks to provide anchor points for wildland fire suppression to protect areas meeting or moving toward desired conditions to provide protection for habitat that is moving toward or meeting desired condition.	BLM BMPs: Same as B-Fire-G-03 and C-Fire-G-01.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Suppression in Wildland-Urban Interface	All wildfires will receive an appropriate suppression response. Appropriate responses are confinement, containment, or control.	*B-Fire-G-04: Prioritize suppression in the wildland-urban interface to protect life and property over habitat to provide protection for habitat that is moving toward or meeting desired condition.	Same as alternative B.	BLM BMP: Same as B-Fire-G-04.
Fuels Treatments in Sagebrush	Natural fuel treatment projects will meet multi-resource objectives.	B-Fire-G-05: Fuels treatments should emphasize protecting existing sagebrush ecosystems to provide protection for habitat that is moving toward or meeting desired condition.	*C-Fire-G-02: Use fuel breaks and green strips to protect areas with >25% landscape sagebrush cover to provide protection for habitat that is moving toward or meeting desired condition.	BLM BMP: Same as C-Fire-G-02.
	No existing direction.	B-Fire-S-01: Fuels treatment projects shall not reduce sagebrush canopy cover to less than 15% of the treatment unit unless needed to meet fire management/protection objectives.	*C-Fire-S-02: Do not reduce sagebrush canopy cover to less than 15% (Connelly et al. 2000; Hagen et al. 2007) unless a fuels management objective requires additional reduction in sagebrush cover to meet strategic protection of bi-state DPS habitat and conserve habitat quality for the species.	Same as C-Fire-S-02.
	No existing direction.	*B-Fire-G-06: Do not use fire, including brush control, as a management tool in areas where there is threat of cheatgrass invasion, sagebrush areas with less than 12 inches of annual precipitation or 12 inches of soil, or areas where the sagebrush cover would be reduced to less than 15%. The intent is to limit the potential spread of cheatgrass into areas with low resistance and low resilience.	Same as alternative B.	BLM BMP: Same as B-Fire-G-06.

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Fuels Treatments in Sagebrush (continued)	No existing direction.	*B-Fire-G-07: Focus fuels management projects in habitat to reduce wildfire threats. The intent is to use fire only where it can do the most good and least harm to meet the purpose of the amendment and be consistent with B-Wild-S-01.	Same as alternative B.	BLM BMP: Same as B-Fire-G-07.
	No existing direction.	B-Fire-S-02: Enhance and restore habitat while reducing the potential for severe wildfires in habitat. The intent is to use fire only where it can do the most good and least harm to meet the purpose of the amendment and be consistent with B-Wild-S-01.	Same as alternative B.	Same as B-Fire-S-02.
Prescribed Fire	No existing direction.	No proposed direction.	*C-Fire-G-03: Treatment methodologies are based on the treatments area's resistance to annual invasive grasses and the resilience of native vegetation to respond after disturbance: (1) use mechanical treatments (i.e., do not use fire) in areas with relatively low resistance to annuals, and (2) treat areas in early- to mid-phase pinyon-juniper expansion. The intent is to use fire only where it can do the most good and least harm to meet the purpose of the amendment and be consistent with B-Wild-S-01.	No proposed addition (covered by C-Weed-S-02).

Resource	Alternative A	Alternative B (Modified)	Alternative C	BLM Proposed
Prescribed Fire (continued)	Use planned, prescribed fire to improve or enhance resource outputs where appropriate.	B-Fire-G-08: Post-fuels management projects should ensure long-term persistence of seeded or pre-treatment native plants and to maintain the desired condition of fuels management projects. The intent is to use fire only where it can do the most good and least harm to meet the purpose of the amendment and be consistent with B-Wild-S-01.	*C-Fire-G-04: Manage post-treatment areas to increase perennial herbaceous species and minimize secondary weed invasion. The intent is to use fire only where it can do the most good and least harm to meet the purpose of the amendment and be consistent with B-Wild-S-01.	BLM BMP: Same as C-Fire-G-04.
	No existing direction.	*B-Fire-S-09: To reduce the risk of habitat loss related to management actions do not use fire as a management tool in areas where the risk of escaped fire could cause negative long-term impacts.	*C-Fire-G-05: Vegetation treatments and post-disturbance restoration should seed and/or transplant sagebrush to restore large patches of sagebrush cover and connect existing patches. The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat or mitigating disturbance.	No proposed addition (covered by C-Wild-S-02 and BLM BMP: B-Fire-G-01).
	No existing direction.	B-Fire-G-10: Where cheatgrass is a minor component in the understory (example; mountain shrub) use prescribed fire to disrupt fuel continuity (fuel breaks) The intent of this guideline is to move toward desired habitat conditions (Table 2-1) when restoring habitat or mitigating disturbance.	*C-Fire-S-06: Use seed for perennial grasses and forbs adapted to local conditions to increase cover of these species.	No proposed addition (covered by C-Wild-S-02).
	No existing direction.	No proposed direction.	*C-Fire-S-03: Annual invasive grasses shall be controlled or suppressed using an integrated strategy.	No proposed addition (covered by C-Weed-S-03).

Note: An asterisk (*) by a standard or guideline indicates that it has been selected as part of the preferred alternative for this project.

Table 2-6. Forage utilization standards for bi-state DPS habitat for alternative B, standard B-RU-S-02

Community Type	Percent Utilization of Key Species	Terms and Conditions
Mountain Big Sagebrush	<45% herbaceous species; <35% shrub species	Livestock removed in 3–5 days of reaching utilization level
Wyoming and Basin Big Sagebrush	<35% herbaceous species; <35% shrub species	Livestock removed in 3–5 days of reaching utilization level
Black Sagebrush	<35% herbaceous species; <35% shrub species	Livestock removed in 3–5 days of reaching utilization level
Riparian and Wet Meadows	<50% herbaceous species; <35% woody species; or average stubble height of at least 4–6 inches (depending on site capability and potential) for herbaceous riparian vegetation	Average stubble height 4–6 inches; Livestock removed in 3–5 days of reaching utilization level based on site; or (sequential action) no grazing from May 15–August 30 in brood-rearing habitat

Note: Monitoring would be conducted using accepted protocols (including but not limited to: Burton et al. 2011; USDI BLM 1996; Platts 1990).

Sources: Holechek (1988); Holechek et al. (1998); Burton et al. (2011); USDI BLM (1996); Platts (1990).

Preferred Alternative

Regulations that provide direction for preparing EISs require that the agency's preferred alternative, or alternatives, be identified in the final statement if one or more exists (CEQ 1502.14 (e)). The preferred alternative includes the desired habitat conditions as identified in Table 2-1 of this final EIS, all of the goals and objectives as displayed in and of this final EIS, and the standards and guidelines as indicated by an asterisk in Table 2-5 of this final EIS (prior to the standard or guideline unique identifier).

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14). Public comments received in response to the proposed action provided suggestions for alternative methods for achieving the purpose and need. Some of these alternatives may have been outside the scope to conserve, enhance, and/or restore habitat for the bi-state DPS, duplicative of the alternatives considered in detail, or determined to be direction that would cause unnecessary environmental harm. Therefore, a number of alternatives were considered, but dismissed from detailed consideration for reasons summarized below.

There were six alternatives considered, but eliminated from detailed study.

1. An alternative was considered that would change all standards in the proposed amendment into guidelines. This alternative was not considered because of how the definitions and applications of standards and guidelines differ. A standard is defined as a course of action that must be followed, or a level of attainment that must be reached, to achieve Forest goals. Adherence to standards is mandatory. In general, they limit project-related activities, not compel, or require them. *A project or activity that deviates from a standard may be approved only if a Forest Plan amendment is approved that would result in the project or activity being consistent with the Forest Plan.* Standards are developed when: applicable laws or policies do not exist, or clarification of existing laws or policies is needed; they are critical to achievement of objectives; or unacceptable impacts may occur if not in place.

In comparison, a guideline is also a course of action that must be followed. However, guidelines are applied to activities where site-specific factors may require some flexibility. *A project or activity that deviates from a guideline may be approved only if it is as effective in achieving the purpose for the guideline and documented in the appropriate approval document for the project or activity.*

Projects that are consistent with standards or guidelines would result in meeting the intent of the standard or guideline for conserving, enhancing, or restoring sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. However, the deciding officer would have flexibility in how the project is designed under a guideline as long as its purpose can be achieved, but there is no flexibility under a standard. As discussed in the “Background” section, for the proposed amendment, in the 12-month finding, the USFWS expressed concern about the level of discretion that deciding officers have under the current land use plans in making decisions at the project level. Even while acknowledging regulatory mechanisms may exist, the USFWS viewed the level of discretion as allowing application of the mechanisms to vary, reducing their adequacy. A plan amendment that includes only guidelines and no standards would not address this USFWS concern about the level of discretion and consistency of application, and therefore would not meet the purpose and need for the proposed amendment. Because of this, an amendment with only guidelines and no standards was not considered further.

2 & 3. Two alternatives were discussed involving the use of buffers. One would extend buffers for various conservation actions, and the other would limit/remove these buffers altogether. The original proposed amendment presented at the beginning of scoping had language about specific buffers for various potential actions. The standards and guidelines have since been rewritten to buffer habitat components instead of projects. By buffering habitat components the effects analysis becomes consistent across alternatives and is less speculative. Because this proposed action is a plan amendment, and forest plans do not make commitments about authorizing future projects or activities, buffering projects would require a great deal of speculation in the analysis concerning the number, extent, and duration of different types of projects.

4. In the public comments several groups and individuals suggested that the agencies no longer allow certain types of activities to occur within the amendment area. Based on these public scoping comments the ID team considered an alternative that would eliminate all discretionary actions within the amendment area. Discretionary actions are actions that the Forest Service is not required by law to consider. These include almost everything the agencies do, from the authorization of special use permits to cross NFS lands, to planning and implementing projects to restore sagebrush habitat for the benefit of the bi-state DPS.

This alternative was discussed as a way to illustrate the trade-offs of not allowing any discretionary actions to occur within the amendment area. The current land use plans allow for various types of resource management and recreation. Forest Service and BLM are multiple-use agencies by definition. An alternative that would practically eliminate all of those activities, regardless of relationship to the conservation of the bi-state DPS, would be outside the scope and intent of the proposed amendment and would not meet the overall management goals and objectives for the amendment area and would not be consistent with multiple use.

5. An alternative was considered as the “habitat exclusion” alternative. A geographically based alternative was discussed that would redraw the habitat map to exclude areas that have a high degree of ongoing activity. Areas that would have been excluded from habitat include developed mine sites, areas with intense mineral exploration activity, areas with high recreation use, and areas with potential for geothermal lease and development. This alternative would have removed those habitat areas from the protections this proposed action offers. This alternative was eliminated from detailed consideration because it would have resulted in fragmentation to the habitat and would not meet the purpose and need

of this proposal to conserve, enhance, and/or restore sagebrush and associated habitats of the bi-state DPS, regardless of the habitat's relative location to various human activities.

6. An alternative was considered that was for the Nevada Enhancement Act only. This alternative was the same as the no-action alternative except for the application of Toiyabe Forest Plan general management direction and Bridgeport Pinyon/Juniper Management Area #6-specific direction to Nevada Enhancement Act lands in the project area. The regulatory mechanisms for the conservation of bi-state DPS would not have been included in the amendment. Because of the same reason as provided for the no-action alternative, this alternative would not meet the purpose and need for the proposed action; therefore, this alternative was eliminated from detailed consideration.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in Table 2-7 focuses on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2-7. Issues comparison by alternative

Issue	Alternative A – No Action	Alternative B–Modified	Alternative C
Access (Recreation and Special Uses)	<i>Recreation:</i> No change from current condition. <i>Special Uses:</i> No change from current condition.	Effects are expected to be minor to recreation and lands special uses. Conflicts from seasonal or locational restrictions may arise. Timing limitations and area-avoidance buffers applied in early spring should not impact the majority of proponents. Those individuals or businesses could experience inconveniences and occasional financial burdens in order to adopt the stipulations required.	Effects of this alternative could range from minor to moderate depending on how invested an individual or business is in their proposal or existing event/development. Seasonal timing limitations and buffers may result in a proposed activity being delayed until after the timing limitation. Individuals or businesses with inflexible dates and locations for conducting events or activities could be inconvenienced by the standards proposed.
Economics	No change from current condition.	Potential for adverse impacts due to implementation of standards and guidelines during site-specific NEPA project designs.	Potential for adverse impacts due to restrictions in habitat.
Wildlife	The lack of regulatory mechanisms allows for potential threats to habitat loss to continue.	Improves protections for the bi-state DPS and supports a “may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability” determination for the bi-state DPS and other sage-habitat-dependent species.	Provides the highest level of risk and threat reduction for the bi-state DPS and supports a “may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability” determination for the bi-state DPS and other sage-habitat-dependent species.
Range Improvements and Domestic Livestock Grazing	Domestic livestock grazing would continue under the terms and conditions of the current grazing permits until updated by allotment-level NEPA analyses.	Additional standards and guidelines would require grazing permits to be updated, utilization standards adjusted, and range improvements modified or removed in order to improve bi-state DPS habitat and reduce negative impacts from infrastructure. Reduced livestock use on Federal lands could lead to increased impacts on private lands. Managing for bi-state DPS desired habitat conditions would result in a long-term improvement in rangeland condition that should improve forage production.	87 grazing allotments would be closed and 85,886 permitted AUMs would be eliminated. Eliminating livestock use on Federal lands could lead to increased livestock impacts on private lands. Range improvements would be removed or modified to eliminate negative impacts to bi-state DPS and its habitat.
Noxious and Invasive Weed Management	The Forest Service and BLM would continue using an integrated pest management approach to prevent weed infestations and control existing infestations.	Additional standards and guidelines would be put in place to further enhance weed prevention and control efforts. Habitat restoration projects, reduced disturbance, and fuels reduction projects will reduce opportunities for weed spread and establishment.	Same as alternative B effects. In addition, alternative C requires control of invasive annual grasses that are not currently state-listed noxious weeds (i.e., cheatgrass). Greater emphasis is placed on limiting disturbance, reducing wildfire risk, and increasing resistance to annual grass invasion. More restrictions applied to land uses would further enhance prevention and control efforts.

Issue	Alternative A – No Action	Alternative B–Modified	Alternative C
Wild Horse and Burro Management	The Forest Service and BLM will continue establishing and adjusting appropriate management levels through herd management area/wild horse and burro territory-specific analyses. Gathers will continue to be implemented to remove excess animals and to apply population growth suppression treatments.	Requires appropriate management levels to be established or adjusted in order to meet bi-state DPS habitat desired conditions. Gathers to remove excess animals or to apply population growth suppression treatments could increase. Managing for bi-state DPS habitat desired conditions would lead to long-term improvement in range condition and forage production.	Effects would be the same as alternative B, except wild horse and burro competition with domestic livestock would be eliminated. Greater emphasis is placed on limiting disturbance, reducing wildfire risk, and increasing resistance to annual grass invasion. These additional conservation measures as well as more restrictions applied to land uses would further benefit wild horse and burro populations.
Minerals	No change from current condition.	Alternative B would have minor impacts on oil and gas exploration and production, but would have a much greater impact on geothermal exploration and production. Consequently, most geothermal exploration would likely take place outside of habitat. Solid leasable minerals would not be expected to be permitted in habitat, but existing gravel pits would continue. Locatable minerals may experience impacts resulting from site-specific NEPA, such as likely seasonal restrictions, delay in processing, and other mitigations, because implementation of standards and guidelines would be subject to valid existing rights. It is difficult to determine the extent of the effect.	Due to the restrictions in this alternative, many of the operating mines, existing gravel pits, and exploration projects would continue operating for a while, but new discretionary project proposals in habitat would be significantly curtailed. Nondiscretionary activities would continue to be permitted in habitat. A petition to withdraw portions of habitat from locatable mineral activity would be presented to the BLM.
Fire and Fuels Management	No change from current condition.	Effects are expected to improve the protection of sagebrush ecosystems and reduce the threat of cheatgrass by increasing the use of mechanical treatments in pre-identified areas based on zonal precipitation averages and minimum vegetation cover thresholds.	Effects are expected to be similar to alternative B.

Chapter 3. Affected Environment and Environmental Consequences

Introduction

This chapter summarizes the physical, biological, and economic environments that are affected by the alternatives and the effects on that environment that would result from implementation of any of the alternatives. Disclosure of the direct, indirect, and cumulative impacts that each alternative could potentially have is described in this chapter. For additional details about the resources and potential effects see the specialist's reports in the project record. These reports will be provided as requested. This chapter also presents the scientific and analytical basis for comparison of the alternatives presented in chapter 2.

Data Used in Analysis

The best data available was used in these analyses. Most of the data used in the following analyses are from the Humboldt-Toiyabe National Forest corporate GIS layers and those of the Nevada State BLM. There is a certain amount of error in the location and size of features included in this GIS data. For example, the fence and powerline corridor layers may be incomplete. There may also be errors resulting from the different sources from which the different layers were obtained. Some perennial streams may show up on the map as being intermittent, which could create some inaccuracies as to the exact location and extent of riparian zones. The Forest and BLM are constantly working to improve the accuracy of maps and the corporate GIS layers.

The data in the tables in this document and in the project record depict with a reasonable amount of accuracy what would be occurring on the ground for each alternative, within the limitations described above.

Overall Approach to Effects Analysis

We have established the following analysis framework for this proposal:

- This proposed action is programmatic. The proposed plan amendment or alternative would provide direction for Forest Service and BLM land managers as they develop, review, and implement site-specific projects on NFS lands and public lands managed by the BLM in the amendment area; however, it would not authorize any specific project or activity or make any commitment of resources.
- This analysis will not compare the action alternatives to a pristine, untouched environment; but rather to the environment affected by the no-action alternative, which includes an array of management activities under the current management plans.
- Property owners and managers other than the Forest Service and BLM within the amendment area are not restricted by or subject to the proposed management direction for their activities that do not occur on NFS lands or public lands managed by the BLM.
- There are no areas of critical environmental concern within this amendment area.
- Due to the programmatic nature of this plan amendment, this analysis discloses the effects of the proposed action (i.e., management direction) on the management of resource programs of the Forest Service and BLM within the amendment area. Because it does not authorize any specific

project or activity or make any commitment of resources, this analysis cannot and does not include site-specific, project-specific, or activity-specific environmental effects.

Analysis Assumptions

Because none of the alternatives make a project- or activity-specific decision, for the purposes of this programmatic analysis, the ID team made assumptions about implementation of the Forest Plan under the alternatives. The following section describes the assumptions during their analysis of the alternatives on various resources. Unless specified, the assumption applies to all alternatives.

General

- Appropriate NEPA analysis would be required for project- or activity-specific decisions.
- The decision not to amend or to amend the land use plans would not dictate the USFWS determination on listing the bi-state DPS as threatened or endangered under the ESA.

Access

- Future site-specific NEPA analysis would be required to address timing and types of recreational use that are determined to potentially cause discrete or long-term disturbances. Most current use is expected to be diffuse and have neutral or short-term impacts.
- Travel routes that pass through active or pending leks may be seasonally closed during the period when birds are on the leks. This would require a site-specific NEPA decision or Forest closure order.
- During nesting/broad rearing, designated roads and trails would be open to individual casual users unless discrete and long-term impacts are identified from this use.
- Road maintenance agreements on Forest Service roads upon renewal may have timing limitations and other mitigations attached.
- Timing limitations would not apply to Federal and state highways, or county roads.

Livestock

- Bi-state DPS habitat areas are generally large sagebrush communities and riparian areas that provide the bulk of forage within grazing allotments.
- For alternatives A and B: Livestock grazing is a diffuse form of disturbance that exerts repeated pressure on the landscape over many years. Grazing effects are typically detected as altered processes and functioning of ecosystems as opposed to discrete disturbances such as fires (Connelly et al. 2004). However, concentrated livestock use in areas near water sources, range improvements, and bed grounds would constitute discrete disturbances (Manier et al. 2013). Livestock concentration can represent a discrete impact, but the impact may be long term or short term depending on timing and location.
- For alternative B: The construction and maintenance of range improvements would continue in the planning area as needed. New range improvements would be subject to limitations as defined in the alternative. Range improvements are generally intended to improve livestock distribution and management, which would maintain or improve rangeland health and could benefit the forage base, wildlife, and bi-state DPS habitat.
- For alternative C: Allotments with bi-state DPS habitat would be completely closed to grazing. Bi-state DPS habitat areas are generally large sagebrush communities and riparian areas that provide the bulk of forage within grazing allotments.

- Livestock concentration can represent a discrete impact, but the impact may be long term or short term depending on timing and location.
- Standards and guidelines identified in alternative B (the proposed amendment) are intended to reduce impacts where livestock may concentrate (such as near water sources, gathering facilities, supplement sources, etc.).
- For alternative C: Allotments with bi-state DPS habitat would be completely closed to grazing.

Special Uses

- Mitigation measures would be used to limit diffuse and discrete disturbances to the bi-state DPS during all seasons, in particular for those existing and proposed activities that are ground-disturbing.
- Instead of creating new disturbance, consolidation of development near or along existing permitted corridors, and similar stipulations, are expected to be included in future projects.
- Nothing in alternative B would preclude authorization of a special use permit.
- Group events and some outfitter-guide permits would be subject to timing limitations.
- The time period for approval of permits could be extended due to the need for site-specific NEPA analysis and the inclusion of additional design features.
- The Marine Corp Mountain Warfare Training Center will be managed according to the terms and conditions specified in their permit and as defined in the integrated resource management plan developed specifically for the facility and in consultation with the Forest and the USFWS.

Non-discretionary Locatable Minerals (Such as Gold, Copper, Barite, and Silver)

- Timing limitations for such activities as construction, surface disturbance, drilling, occupancy, and others may be assigned.
- Each component of proposed projects should be evaluated and mitigated to reduce or eliminate long-term negative impacts to bi-state DPS to the extent practicable.
- Off-site mitigation may be recommended for unavoidable long-term impacts to bi-state DPS.
- Nothing in alternatives B or C would preclude authorization of a plan of operations.

Discretionary Mineral Materials (Saleable Minerals; Such as Sand and Gravel)

- Exploration and development permits and new quarries will be discouraged/carefully considered or eliminated in bi-state DPS habitat, especially if the purpose and need for the action can be met outside the habitat.
- Expansion of existing pits inside habitat may have timing limitations and hours of use modified. Measures to control noise, dust, visual, and other impacts may be added, along with other mitigations to reduce negative long-term impacts.
- The level of analysis and permitting time may be increased due to the complexity and potential for impacts to bi-state DPS.

Discretionary Leasable Minerals (Such as Geothermal, Oil and Gas, Solid Leasable)

- Exploration and development may be discouraged/carefully considered, minimized, or eliminated in bi-state DPS habitat, especially if the purpose and need for the action can be met outside the habitat.

- New development components would be placed to have the least impact on bi-state DPS and may be placed outside habitat where possible.
- For alternatives B and C: Stipulations for leasing and new leasing analysis would incorporate the applicable standards, objectives, and guidelines from this amendment.
- Timing limitations and other mitigations would be applied to activities inside bi-state DPS habitat if they cause long-term negative impacts.

Vegetation Habitat Improvement Projects

- Long-term discrete disturbance is expected from vegetative improvement projects. During project implementation, the bi-state DPS would not be using the area because of disturbance from the project activities. While sage grouse are expected to move back into the area after implementation, their return is not certain and would occur after the vegetation is restored to meet their habitat needs.
- Implementation in large restoration areas may take 10 years to complete.
- Vegetation habitat improvement would emphasize mechanical treatment.

Bi-state DPS

- Protecting habitat, improving habitat, and reducing disturbance will help maintain or increase the population and distribution of the species.
- Although alternatives B and C would apply only to lands administered by the Forest Service or BLM, none of the alternatives prohibit potential opportunities for offsite mitigations.

Resource Program Analysis

Each resource specialist assessed the potential effects of the proposed action on the ability to manage the resource program and associated land users.

The resource sections in this chapter provide a summary of the project-specific reports, assessments, and other documents prepared by resource specialists on the ID team. These reports are part of the project record on file at the Humboldt-Toiyabe National Forest Supervisor's Office in Sparks, Nevada, and are available on request. The following reports, assessments, and other documents are incorporated by reference:

Recreation and Lands Special Uses: Recreation and Lands Special Uses specialist reports

Wildlife: Wildlife Specialist Report and the Biological Assessment/Biological Evaluation (BA/BE)

Minerals: Minerals Specialist Report

Economics: Economics Specialist Report

Rangeland Improvement and Domestic Livestock Grazing: Rangeland, Weeds, and Wild Horses and Burros specialist reports

Fire and Fuels Management: Fire and Fuels Specialist Report

Direct and Indirect Effects

Direct effects of managing under each alternative on the resource program are included under the narratives for each resource program. This includes effects on activities under the program and management for such activities.

Indirect effects to wildlife, including the bi-state DPS and its habitat, from activities and changes in activities and management for activities for these resource management programs are described in the “Effects on the Management of the Wildlife Program on Federal Lands” section. Indirect effects to activities and management of activities under each resource program as well as indirect effects to programs other than wildlife are under the direct and indirect effects section for each resource program.

Cumulative Effects

According to the Council on Environmental Quality (CEQ) National Environmental Protection Act (NEPA) regulations, “cumulative impact” is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR 1508.7).

The cumulative effects analysis area is described under each resource. Past activities are considered part of the existing condition and are discussed in the “Affected Environment” (existing condition) and “Environmental Consequences” sections under each resource.

The CEQ issued an interpretive memorandum on June 24, 2005, regarding analysis of past actions, which states, “agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” To understand the contribution of past actions to the cumulative effects of the proposed action and alternatives, this analysis relies on current environmental conditions as a proxy for the impacts of past actions. This is because existing conditions reflect the aggregate impact of all prior human actions and natural events that has affected the environment and might contribute to cumulative effects.

Information on Other Resource Issues

The alternatives either do not affect the following resource issues, or their localized effects are disclosed under other resource sections. A brief summary on why they are not discussed further in chapter 3 is provided based upon input received during scoping.

Climate Change. Alternative B or C would provide regulatory mechanisms to conserve, enhance, and/or restore sagebrush habitats. Climate change may affect how these regulatory mechanisms in the proposed action are implemented over time. There is a potential that, with a changing climate, these regulatory mechanisms may need to be changed to address a changed condition that affects how well the plan amendment would meet its purpose and need.

Research Natural Areas. Research natural areas that fall within the amendment area have their own set of management directions which, in general, prohibit management activities. Nothing in this proposed amendment would alter or change the specific management direction defined in the forest plans for research natural areas.

Wilderness and Wilderness Study Areas. None of the alternatives would affect direction for managing wilderness areas or wilderness study areas. Under alternatives B or C, site-specific activities designed to improve sagebrush habitats that include portions of a wilderness or wilderness study area would have to meet both the management direction for the bi-state DPS and directions specific to the Wilderness Act.

Environmental Justice (Executive Order 12898). None of the alternatives would result in any identifiable effects or issues specific to any minority or low-income population or community. The Agency considered all public input from persons or groups regardless of age, race, income status, or other social/economic characteristics. Examination of community composition, as required under this Executive

order, found no minority or low-income communities to be disproportionately affected under any of the alternatives. This was not raised as an issue during scoping.

Civil Rights. The USDA civil rights policy requires each agency to analyze the civil rights impact(s) of policies, actions, or decisions that would affect federally conducted and federally assisted programs and activities. Protected groups include multiples of similarly situated persons who may be distinguished by their common race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetics, political beliefs, or receipt of income from any public assistance program. Neither alternatives B nor C would result in identifiable effects or issues specific to any protected group. The Agency considered all public input from persons or groups regardless of age, race, income status, or other social/economic characteristics.

Analysis of Effects

Effects on the Management of Access to Federal Lands

Recreation Resources and Recreation Special Uses

Affected Environment

Visitors to Forest Service and BLM lands included in the amendment area enjoy a wide variety of recreational opportunities due to varied terrain, many miles of roads and trails, recreational facilities, and year-round access. There are 6,490 miles of travel routes (designated roads and trails) in the amendment area; 59 percent of those are under BLM administrative ownership and the remainder administered by the Forest Service². There are no designated open OHV (off-highway vehicle) “play areas” in the amendment area, although the BLM does allow some cross-country travel. Existing travel routes on BLM have not been completely evaluated through a travel management planning process and have not been completely “designated”. The current OHV designation for much of the BLM-managed land in the amendment area is “open” to unrestricted cross-country travel.

Approximately 45,000 acres along the Pine Nut Mountains crest are currently designated as limited to designated routes; however, the travel management process has never been completed for this area. The Burbank Canyons Wilderness Study Area (13,395 acres), located at the southern end of the Pine Nut Mountain Range, was closed to motorized use in the 1980s through a *Federal Register* notice. A small portion (25,000 to 30,000 acres) of the Pine Nut Mountains includes lands that limit motorized use to “existing routes” through the 2009 Omnibus Act. The rest of the BLM public lands in the Pine Nut Mountains are designated open to OHVs.

Over the years there have been temporary restrictions on motorized use in the Pine Nut Mountains related to recent fires. Recent fire perimeters or portions of fire have a “limited to existing routes” restriction on them. Typically they remain in effect for 2 years after posted in the *Federal Register*.

There are no public lands in Alpine County designated “open” to motorized use. The Alpine County Plan Amendment (2007) either limited motorized use to “designated routes” or closed it. A small area (250 to 300 acres) near Harvey’s Place reservoir has been closed to all public access (both motorized and non-motorized uses). Travel management has not been completed for Alpine County. Of the designated travel routes, 503.6 miles pass through the 5-kilometer buffer surrounding active bi-state DPS leks.³

² GIS data: USDA Forest Service and USDI BLM (2013).

³ GIS data: USDA Forest Service and USDI BLM (2013).

Motorized route designations on NFS lands are developed through a public travel management planning process. This process is conducted in accordance with the Forest Service 2005 Travel Management Rule (36 CFR 212.50 through 212.81).

This rule requires that motor vehicle use on NFS roads, on NFS trails, and on any Forest Service-administered areas allowing cross-country motorized travel, shall be designated according to vehicle class and, if appropriate, to time of year by the responsible official on administrative units or ranger districts.

The BLM has a similar regulation (43 CFR subparts 8340 through 8342). The regulation requires that all public lands be assigned an OHV management area designation of “open” or “limited” or “closed” to motorized travel. The agency prohibits motor vehicle operation not in accordance with those designations.

Forest Service Recreation Special Uses. In 2011, 16 outfitter-guide permits were in effect on the Carson Ranger District and 15 on the Bridgeport Ranger District. Carson Ranger District issued the greatest number of permits for rafting trips, with hunting and fishing a close second and third. On the Bridgeport Ranger District, permits were issued on a relatively even basis for backpacking, multi-sport activities, fishing, and stock-based activities. In 2011, between the two districts, 39,006 service days were authorized to outfitter-guides, less than 1 percent of total visitor use according to national visitor use monitoring results.

Specific to the amendment area, outfitters are permitted to take clients fishing, hunting, and snowmobiling. Actual client days used rarely meets the days allotted for these activities. With the exception of hunting, the majority of outfitted trips are day use. The majority of outfitter-guide activities occur during the summer months. A marine warfare training center conducts exercises in the amendment area.

Special use permit administrators were surveyed in 2011 to determine what they saw as emerging trends or demands for outfitter-guide services on the Forest. The most common activities identified included OHV tours; winter activities, such as snowcat and yurt skiing; hiking; mountain biking; and climbing.

Activities and trends considered new and emerging on the Forest included ziplines, geocaching, kite boarding, and paintball/airsoft and ropes courses. The activities listed as growing in popularity included OHV use and hang-gliding.⁴

The Carson and Bridgeport ranger districts are currently completing an outfitter-guide program analysis. This process looks at the need for commercial services, limiting factors to capacity in geographic areas established by the Forest Plan, and establishes a visitor capacity and outfitter-guide service day allocation in areas where it is determined necessary.

There are several organized recreation events occurring each year, particularly in the Wassuk geographic area. Forest Service-permitted recreation events typically include the following:

- Sierra Trail Dogs motorcycle event lasting for 2 days in June (about 150 motorcycles)
- Modesto Ridge Runners event taking place in August (60 to 80 vehicles)
- Walker ATV Jamboree taking place in June (200 to 300 participants over 5 days)
- American Enduro Ride, a horse ride in August (about 30 people)

BLM Recreation Special Uses (Carson City District). Several organized recreational activities take place on BLM-managed public land in the amendment area. These include competitive motorcycle races,

⁴ Carson-Bridgeport Ranger Districts Needs Assessment (2013).

OHV and other vehicle races, competitive horse endurance rides, organized camping events, and competitive mountain bike races. These are described in further detail below:

- Annual 2-day organized group camping and motorcycle riding at Wilson Canyon: Some motorcycle riders will use area around Wilson Canyon for localized riding, whereas other riders will head north to Smith Valley/Singatse Range or south onto Forest Service for extended trail riding.
- OHV truck/buggy races (May/September) in the Singatse Range/Lincoln Flat/Churchill Canyon/Adrian Valley area.
- Annual 1 day mountain bike race held in mid-May in western Pine Nut Mountain Range near Ruhenstroth or just east of the Douglas County landfill.
- Annual 1 day horse endurance ride staged out of Dayton rodeo grounds. Course located in north Pine Nut Mountain Range. Held in late May/early June.
- Annual ATV tours over 3-day period in Pine Nut Mountains. Held in mid-June.
- Annual dual sport motorcycle ride in Lyon/Mineral Counties, West Wassuks/Cambridge Hills area. Held in mid-June.
- Annual 1-day horse endurance ride in southwest area of Pine Nut Mountain Range. Held in late June.
- Annual Vegas to Reno OHV race (August) comes through northern part of Pine Nut Mountains via Adrian Valley and Churchill Canyon.
- Fishing outfitter and guide in Alpine County, seasonal.

BLM Recreation Special Use Permits (Tonopah Field Office). Many of the commercial permits, such as those issued to hunting outfitters and guides, are used throughout the Battle Mountain District. Competitive permits, such as OHV races, are confined to a preapproved race route. A large percentage of the races in the area have taken place in the Tonopah Field Office. Less than 10 special recreation permits per year are issued in the entire Battle Mountain District over the last 10 plus years.

There are no outfitter-guide permits currently authorized specifically in the amendment area. Determination and issuance of special use permits for both outfitters and for recreation events are governed by interim direction that seeks to minimize impacts to sage grouse habitat. The Forest Service follows the Interim Conservation Recommendations for Greater Sage Grouse and Greater Sage Grouse Habitat (2012) and the BLM the interim direction contained in BLM IM NV 2012-061. Both documents contain specific instructions on evaluating, permitting, and mitigations for recreation special uses activities. The documents also reference guidelines for evaluating travel management activities. The BLM interim direction also provides guidance for evaluating recreation sites for impacts to sage grouse habitat.

Environmental Effects

Alternative A – No Action

Direct and Indirect Effects.

Recreation. There are no direct or indirect effects of the no-action alternative on recreation use. People could continue to recreate on public lands as they have done in the past. Access would not be limited seasonally, permanently, or through modifications of permits except through normal permitting processes. To meet current plan direction, applications for recreation special use permits would continue to be analyzed using existing agency policy, determination of need, and site-specific environmental analysis.

Existing permits would continue under their current stipulations and terms and conditions. The demand for new recreation facilities could be met if other conditions allowed for their construction.

Lands Special Uses/Recreation. In the long term, there would be little indirect effect to recreation from the no-action alternative. Those visitors who enjoy seeing the birds could lose that opportunity if grouse abandon leks and forage areas as a result of disturbance, not currently restricted by the land use plans. Those visitors who appreciate and value an intact ecosystem would notice changes over time. As bi-state DPS habitat degrades from lack of action, some visitors may choose not to visit those areas for a variety of reasons, including increased development, the presence of nonnative plant or animal species, and lack of plant and animal diversity.

Cumulative Effects. Under the no-action alternative, the current recreation use reflects past and current management. No foreseeable actions that affect levels of recreation use are expected; therefore, the cumulative effects of the alternative are the same as the direct and indirect effects, neither of which is significant.

Table 3-1. Management indicators for assessing effects to recreation, alternative A (no action)

Issue	Management Indicator	Changes from Existing Condition
Access	Miles of travel routes that would be changed from the current condition due to seasonal restrictions	No change
	Potential changes to OHV recreational events by timing, location, and season	No change
	Acres of land available for cross-country driving opportunities that would be closed	No change
	Restrictions on special use permits issued for recreational purposes	No change

Summary of Effects. Effects to recreation and lands special uses are expected to be negligible. Visitors would continue to recreate as they have in the past with no seasonal restrictions or mitigations to recreation special use permits or events in addition to those already imposed through the permit process or by travel management plans. Some visitors may notice absence of sage grouse or degradation of habitat.

Alternative B – Proposed Action

Under this alternative, more specific standards and guidelines are identified for managing anthropogenic uses and to meet Goal 2: *Bi-state sage grouse and their habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.* These standards and guidelines were developed from input received from the public, other agencies, the national sage grouse conservation efforts, and the National Technical Team report.

Direct and Indirect Effects. Recreation could potentially be affected by implementation of alternative B. Changes in recreation settings and opportunities could result from implementation of the standards and guidelines in the proposed action. Timing limitations and limitations placed on construction could result in corresponding changes in the certain types of recreation opportunities that depend on free, unmanaged access and desired recreation experiences and associated benefits. These opportunities and benefits are influenced by access.

Recreational experiences and the potential attainment of a variety of beneficial outcomes are vulnerable to any management action that would alter the settings and opportunities in a particular area. Recreation

settings are based on a variety of attributes, such as remoteness, the amount of human modification in the natural environment, evidence of other users, restrictions and controls, and the level of motorized vehicle use. Management actions that greatly alter such features within a particular portion of the decision amendment area could affect the capacity of that landscape to support diverse recreation opportunities and beneficial outcomes.

OHV group events would be subject to timing/location limitations, which could limit the ability of some participants to attend. Organizers may decide not to hold the event if they could not continue to hold it during a time that they desire to do so. This would represent a reduction in opportunity for participants who would otherwise have been attending such events each year. OHV events would be restricted near leks and in winter habitats. Since a total of 503.6 miles of travel routes pass through the 5-kilometer buffer around active leks, and lekking occurs between March 1 and May 15, it is expected that impacts resulting from reduced access would be minor, since recreation opportunities during this time of year are fewer and many additional miles of travel routes exist on public lands. Winter habitat outside of the lek perimeters is only a small amount of the land base and other options exist for those wishing to hold events. In addition, many acres of land where no leks occur are available within and outside of the amendment boundary. The vast majority of organized OHV events occur after May 15.

If the lek buffer were extended to four mile and the timing limitation extended to June 30 to decrease disturbance to lekking and nesting sage grouse the effects to operators would be greater. Five OHV events that have occurred in the project area take place in June. Extending the season of use for these events would result in the need for organizers to reschedule their event. The extensions of the buffer and timing limitation are likely to reduce both direct and indirect adverse effects to lekking and nesting sage-grouse associated with anthropogenic disturbance (Coates 2013).

Extending the buffer from 3-miles to 4-mile restriction from March 1-June 30th could limit the feasibility of holding events in the area. There are currently two gatherings on NFS lands this would affect. These are the Sierra Trail Dogs motorcycle event and the Walker ATV Jamboree, both held in June and drawing between 150 to 300 participants. Organizers may decide not to hold the event if they could not continue to hold their events during a time that they desire to do so, and participants who have been attending for years may be unable to take part. Factors such as extreme heat, lack of water, and increased dust later in the season could limit or inhibit events that normally took place in spring. The vast majority of on-going yearly organized OHV events could be affected, since five out of seven events occur in May or June. Should these events be shifted to the summer months or to alternate locations, conflicts could occur with other types of recreation uses, including competition for campsites, noise and dust concerns, and displacement of individual parties from travel routes. Some events would need to be relocated or not permitted if they fell within the 4 mile buffer.

All OHV events would continue to be analyzed under site specific environmental analysis, which could impose additional restrictions. OHV events occurring after June 30th would continue as they have in the past.

Since a total of 503.6 miles of travel routes pass through the 5-kilometer buffer around active leks, and lekking occurs between March 1 and May 15, impacts resulting from reduced access to outfitter-guides should be minor, since recreation opportunities during this time of year are fewer and many additional miles of travel routes exist on NFS and BLM public lands. The majority of outfitter-guides operates later in the year and would be able to choose areas that would be available for their business that did not fall within the restricted areas. Current permits and proposals have been evaluated and modified if necessary under the existing interim direction for both agencies, so changes to existing permits under the proposed action should be minor.

If the lek buffer were extended to four mile and the timing limitation extended to June 30 to decrease disturbance to lekking and nesting sage grouse the effects to outfitters and guides would be greater. Extending the season of use for may result in the need for outfitters and guides to reschedule or relocate their activities. The extension of the buffer and timing limitation are likely to reduce both direct and indirect adverse effects to lekking and nesting sage-grouse associated with anthropogenic disturbance (Coates 2013).

No effect is expected on casual driving by individuals since use would be kept at the current condition. Unless future planning efforts restrict this practice, all acres of open designation on BLM lands would still be available for off-road drivers.

Table 3-2. Management indicators for assessing effects to recreation, alternative B (proposed action)

Issue	Management Indicator	Changes from Existing Condition
Access	Miles of travel routes that would be changed from the current condition due to seasonal restrictions	503 miles through 5-kilometer buffer around active leks, for outfitter-guides and OHV events
	Potential changes to OHV recreational events by timing, location, and season	Seasonal restrictions/locations
	Acres of land available for cross-country driving opportunities that would be closed	No change on Forest Service land (currently zero); future planning may change acres available on BLM land
	Restrictions on special use permits issued for recreational purposes	Changes in timing and location

Cumulative Effects. Cumulative effects to recreation within the amendment area boundary would relate to other administrative or Forest and BLM management activities occurring within or immediately adjacent to the amendment area. The present and foreseeable actions relevant to the cumulative effects analysis for recreation resources and lands special uses are:

- Carson and Bridgeport Ranger Districts' Outfitter-Guide Program Analysis; and
- Revision and amendment of land management plans for both agencies and associated changes in policy and direction for greater sage-grouse.

The spatial boundaries for analyzing the cumulative effects to recreation are the amendment area and adjacent public lands, because typically visitors do not cease to recreate at specific land management boundaries. Often, restrictions and management actions on adjacent public lands can cause recreation patterns to change in response, including displacement to other areas where restrictions are fewer, and concentration of use in areas where access is easier.

Under alternative B, the Forest Service and BLM would adopt standards and guidelines designed to address the need to protect bi-state DPS and habitat. The standards and guidelines that could directly impact permitted recreation opportunities would apply across the unit boundaries of the two Federal agencies habitat-wide.

Cumulatively, this would represent a change in recreation in the timing and use of bi-state DPS habitat range wide. Outside the range there would be little change. The temporal boundaries are either short term and temporary, occurring during a single season (direct effects), or longer term (indirect effects).

Across the amendment area and cumulative effects analysis area some of the standards and guidelines being proposed are already being implemented either through formally recognized management guidance in an RMP (Bishop Field Office), informal application of best management practices (Humboldt-Toiyabe National Forest), or through interim management direction (Inyo National Forest and Nevada BLM). As a result, in some instances there would be little expected change to recreation use and management resulting from this action, and cumulatively, all Forest Service and BLM units with bi-state DPS habitat would be managed consistently. Cumulative effects to recreation would depend on any new direction proposed in upcoming land management plan revisions. Changes in how recreation is managed, along with any seasonal or timing restrictions determined in future NEPA analysis, could have a cumulative effect on recreation opportunities in the amendment area. Future outfitter-guide allocations determined in the ongoing needs assessment/capacity analysis could further restrict new applicants. There may be a wholesale shift in the timing of recreation across the habitat because of the consistent management direction. However, with the majority of the public lands managed under the Forest Plan and BLM RMPs not falling within the amendment area, these effects are expected to be minor.

No other foreseeable changes to recreation management in the amendment area are known. Possible cumulative effects to recreation would depend on any new direction proposed in upcoming land management plan revisions, but such change would undergo appropriate planning and NEPA processes. Changes in how recreation is managed, along with any seasonal or timing restrictions determined in future NEPA analysis, could have a cumulative effect on recreation opportunities in the amendment area. Future outfitter-guide allocations determined in the ongoing needs assessment/capacity analysis could further restrict new applicants.

Summary of Effects. Effects are expected to be minor to recreation and lands special uses, with the exception of those proponents who expect and want a specific location and season in order to conduct their activity. Those individuals or businesses could experience inconveniences and occasional financial burdens in order to meet the stipulations required.

Alternative C

Direct and Indirect Effects. Under this alternative, standards and guidelines that are more conservation oriented and more restrictive to lands/recreation activities are proposed in order to meet Goal 2: *Bi-state DPS and habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.* These standards and guidelines were developed from input received from the public, other agencies, the national sage grouse conservation efforts, and the National Technical Team report.

Standards and guidelines in alternative C would include additional restrictions on proposed and existing activities in the amendment area.

Recreation opportunities could be affected the most under implementation of alternative C. The additional restrictions on seasons, locations, and access could change the way people recreate in the amendment area. While there would still be numerous alternative locations for OHV events and outfitter-guide activities outside of bi-state DPS habitat, permit holders who still wanted to hold events or guide clients would need to identify different locations and routes. Permit holders and applicants could incur additional costs and longer timelines in order to obtain permission for their activity. Some past OHV event participants might be deterred by changes in event locations and timing.

It is expected that most individual activities, such as casual driving and use of designated trails, would be considered a diffuse indirect effect to bi-state DPS similar to the other alternatives and, therefore, could continue. Under this alternative no cross-country driving could occur on BLM lands within habitat;

however, the majority of “open” designation occurs outside of habitat. A small amount of acres would be unavailable for this type of recreation, and users that enjoy it would be displaced to other locations or would be limited to designated roads and trails.

The restriction on cross-country travel may impact some motorized recreation, such as OHV exploration which depends on unrestricted travel. Opportunities for non-motorized recreation, such as hiking, horseback riding, and hunting, in a more natural or primitive setting, may be expanded and enhanced.

Not allowing any new recreational facilities in habitat to prevent habitat fragmentation, spread of invasive plants, noise, and other impacts shown to affect sage grouse could create concentrations of users at existing developments. With factors associated with crowding such as loss of solitude, conflicts with different types of uses, and over-use of facilities, people may become dissatisfied with their recreation experience in certain areas. Nearby communities would not be able to benefit from potential economic contributions of visitors as they arrive to use these facilities. However, a substantial amount of facilities currently exist and it is unlikely that visitors would be unable to find places to camp, picnic, and recreate that would suit their needs.

Allowing new roads only in limited circumstances and within the 3-percent-disturbance ratio could mean that access would be decreased over time as existing roads become unusable due to lack of funds for maintenance, or roads are closed or restricted through other planning processes.

Table 3-3. Management indicators for assessing effects to recreation—alternative C

Issue	Management Indicator	Changes from Existing Condition
Access	Miles of travel routes that would be changed from the current condition due to seasonal restrictions	No outfitter-guide activities within 4 miles of a lek
	Potential changes to OHV recreational events by timing, location, and season	No OHV events in habitat
	Acres of land available for cross-country driving opportunities that would be closed	None would be available
	Restrictions on special use permits issued for recreational purposes	No OHV events in habitat; outfitter-guide activities restricted (see above)

Cumulative Effects. Cumulative effects to recreation within the amendment area boundary would be the same as those listed under alternative B.

Summary of Effects. Effects of this alternative could range from minor to moderate depending on how invested an individual or business is in their proposal or existing event/development. Individuals or businesses focused on certain seasons or locations for conducting events or activities could be inconvenienced by the standards proposed.

Lands and Lands Special Uses

Affected Environment

Bureau of Land Management (Carson City District). Portions of four BLM-designated utility corridors traverse the amendment area, totaling about 88 miles and covering a total area of approximately 133,500 acres—112,850 acres (85 percent) of which are on BLM-administered land. All utility corridors are occupied by electrical transmission lines, which include 120-kilovolt (kV) from Mount Rose to

Brunswick, 120-kV Verdi to Bluestone, 120-kV Fort Churchill to Buckeye, and 60-kV Carson to Yerington. A natural gas transmission line also is generally located within the Carson to Yerington and Mason Valley to Brunswick utility corridors. There are no current land ownership adjustments proposed for the amendment area.

The BLM facilitates communication site rights-of-way processing and minimizes surface disturbance by grouping communication facilities at locations where existing facilities occur, where access is reasonably available, where terrain is appropriate for communication facility needs, and where other resource values are limited. There are communications sites in the Como Pass and Rawe Peak areas.

Solar energy development on BLM-administered lands is managed through rights-of-way authorization under title V of the Federal Land Policy and Management Act of 1976, 43 CFR 2800, and current applicable BLM instruction memoranda. This guidance is expected to change over time and new instruction memoranda are expected to be developed.

Rights-of-way applications for solar energy development projects are identified as a high-priority BLM field office workload, consistent with the President's National Energy Policy of 2001 and the Energy Policy Act of 2005. The term length of the authorization is not limited by regulation (43 CFR 2805.10(a)(3)); however, it should recognize the overall costs and useful life of solar energy facilities (43 CFR 2805.11(b)(3)). The term of the solar energy authorization for a commercial facility should not exceed the design life of the project, typically 30 years. The authorization may be renewed consistent with the provisions of the regulations (43 CFR 2807.22(a)). Other compatible uses may be authorized, but are unlikely due to the intensive use of the site for photovoltaic or concentrating solar power facility equipment.

Wind energy development on BLM-administered lands is managed through rights-of-way authorization in accordance with the terms and conditions of BLM's Wind Energy Development Policy (Instruction Memorandum 2009-043 [BLM 2009]). This guidance is expected to change over time.

There are no solar or wind projects in the amendment area; however, this does not preclude the possibility for proposals to be received, including those that would propose use of the amendment area.

Rights-of-way on BLM land are generally long term, with a typical permit length of 30 years. A few authorizations have been granted in perpetuity if they were issued under acts prior to FLPMA. There are a few authorizations that are coming up for renewal soon. Generally, both Federal agencies apply any necessary grant stipulation updates at the time of renewal. However, both agencies have the authority to correct grants/add stipulations at any time to prevent undue and unnecessary degradation to public land and its resources.

BLM Lands Special Uses (Tonopah Field Office). There are currently no "Lands" special use authorizations on the Battle Mountain District portion of the amendment area.

There are no existing wind rights-of-way and there been no applications received to proceed with either a wind testing or a wind development project within the Battle Mountain District. Transmission capacity is a major factor in the feasibility and success of wind energy projects, particularly in remote areas such as the Battle Mountain District. Without existing, adequate transmission capacity, the likelihood of wind energy development in the District is low. There are no current transmission rights-of-way applications nor has there been any interest expressed for future transmission rights-of-way within the Battle Mountain District. Due to the limited size of plots of BLM-administered land with good-quality wind resources, the lack of wind projects in the Battle Mountain District, the lack of pending rights-of-way applications in the Battle Mountain District, lack of transmission capabilities and transmission rights-of-way application

interest, and the fact that much better wind resources occur in other parts of the state, it is not expected that commercial-scale wind energy projects would be developed within the planning area by year 2030 (USDI BLM 2013a).

Requests for rights-of-way are likely to increase in the next 20 years on BLM lands due to increased interest in renewable energy and the potential for growth and development. As energy development continues, energy rights-of-way, such as electric transmission lines and regulations that allow for right-of-way access and use, are likely to increase in importance (USDI BLM 2013b).

Determination and issuance of permits are governed by interim direction that seeks to minimize impacts to sage grouse habitat. The Forest Service follows the Interim Conservation Recommendations for Greater Sage Grouse and Greater Sage Grouse Habitat (2012) and the BLM the interim direction contained in BLM IM NV 2012-061. Both documents contain specific instructions on evaluating, permitting, and mitigations for lands special uses activities.

Environmental Effects

Alternative A – No Action

Under this alternative, issuance of use authorizations would continue using current Forest Plan direction, interim guidance, and existing policy and direction. Site-specific environmental analysis would determine stipulations, timing, and location of use.

Direct and Indirect Effects. There would be no direct or indirect effects on land ownership adjustment or lands special uses under this alternative. The interim management direction would continue to guide issuance of permits. Proposals for land ownership adjustments and applications for “Lands” special use permits would continue to be analyzed and approved or denied using existing agency policy, determination of need, and site-specific environmental analysis. Existing permits would continue under their current stipulations and guidelines. Opportunities would be unchanged for development of alternative energy resources with subsequent economic benefit for the region. “Lands” special use permits would not experience any indirect effects.

Table 3-4. Management indicators for assessing effects to lands special uses—alternative A (no action)

Issue	Management Indicator	Changes from Existing Condition
Economics	Potential changes in opportunities for the development of alternative energy resources (i.e., solar, wind, etc.) or other developments, including powerlines and communication sites	Based on interim direction for protection of bi-state DPS, there could be restrictions on location of new developments which would be determined through site-specific environmental analysis
	Anticipated modification to permits during renewal process	Based on interim direction for protection of bi-state DPS, there could be modifications to existing permits during the renewal process; these would be determined through site-specific analysis

Cumulative Effects. Because there are no direct or indirect effects to land ownership adjustments or “Lands” special uses, there would be no cumulative effects to “Lands” special uses.

Summary of Effects. No effects to land ownership adjustments or “Lands” special uses are expected. Proposals for land adjustments and “Lands” special use permits would continue to be processed and approved as they have been in the past. Opportunities would remain unchanged.

Alternative B – Proposed Action

Under this alternative, more specific standards and guidelines are identified for managing anthropogenic uses and to meet Goal 2: *Bi-state DPS and their habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.* These standards and guidelines were developed from input received from the public, other agencies, the national sage grouse conservation efforts, and the National Technical Team report.

Direct and Indirect Effects. Existing “lands” special use permits could potentially be affected by implementation of standards and guidelines. Future project-specific analysis could require modification of permits to meet seasonal and height restrictions. As a result, special use permit holders may need to invest in equipment or personnel to meet these requirements. New permits could still be authorized, but would be subject to standardized stipulations relating to the standards and guidelines. For existing permits, alternatives may be identified that would allow authorization of the permit and meet the standards and guidelines with little additional cost.

In some cases, if new proposed activities were determined to have an adverse effect on bi-state DPS and they could not be mitigated, new or renewed permits would have to meet the new direction. Proponents may have to identify other sites for their lands special use. In some cases, proponents may find the mitigations too costly and may withdraw their application or to apply. Restrictions on facility placement, limited access, increased administrative costs, and installation of facilities in less-than-optimum sites could all result if applicants applied for authorizations in avoidance areas. Alternative energy projects would be the most affected because they have potential to be a long-term discrete disturbance with potential for negative effects. Many acres of public lands exist outside of the project boundary that could be available for these types of projects. Since interim direction currently guides the issuance of lands special use permits, effects to the management of “Lands” special uses under alternative B are expected to be minor and limited to certain situations where a previously unpermitted type of use was proposed.

Indirect effects of the proposed action include how adoption of the standards and guidelines would affect management of the current program. Instead of BMPs and interim direction, standards would be required and standardized throughout the program. This would eliminate uncertainty on the part of the applicant and would assist in consistency between districts and agencies. There could be a benefit to applicants because their requests may be processed in a timelier manner due to standardization and streamlining of the process.

Opportunities for economic growth and benefit to communities may be indirectly affected by applicants not proceeding with proposed actions because of mitigations placed on these types of permits. The amount of impact would depend on level of type and expense of the mitigation. However, since standards and guidelines already existed for these types of permits, the impacts are likely to be minor.

Access for “Lands” special uses could be affected through implementation of this alternative. The use of existing roads and construction of new roads would not be prohibited through the proposed action; however, future site-specific NEPA could modify or change access to Forest Service or BLM lands if the proposed roads do not fall under the types allowed in the guideline.

A project proposed in these areas may be subject to additional requirements, such as resource surveys and reports, construction and reclamation engineering, long-term monitoring, special design features, special

siting requirements, timing limitations, and rerouting. Such requirements could restrict project location or they could delay availability of energy supply (by delaying or restricting pipelines, transmission lines or renewable energy projects), limit future access, delaying or increasing the cost of energy supplies, or they could delay or restrict communications service availability. As a result of special surveys and reports, alternative routes may need to be identified to meet the new requirements. Applying special stipulations would result in increased application processing time and costs due to the potential need to relocate facilities develop alternatives that would meet the greater design, mitigation, and siting requirements.

Limitations on new rights-of-way and above-ground linear features, such as transmission lines and pipelines, could restrict the availability of energy or service availability and reliability for communication systems. While management under alternative B would allow for co-location, there are limitations as to the amount of infrastructure that can be co-located in a given right-of-way. Often, co-location is not feasible. Therefore, under alternative B, there could be limited to no opportunity for new rights-of-way development.

Co-locating transmission development infrastructure in existing rights-of-way or Forest Service easements and existing disturbed areas reduces land use conflicts and additional land disturbance. Co-location policies also clarify the preferred locations for utilities and simplify processing on BLM- and Forest System-administered lands. However, co-locating can limit options for development and selection of preferable locations for rights-of-way.

Impacts on the location and design of communication towers on both BLM- and Forest Service-administered lands could occur. To be effective, communication towers are constructed to meet specific height standards as necessary to have line-of-sight with adjacent repeaters. Under alternative B, conditions on tower design (e.g., tower height) applied to towers within 2 miles of a lek may prevent the effective transmittal of communication signals to adjacent towers due to the height restriction or the need for possible less effective siting outside of 2 miles of a lek.

A considerable backlog of lands special use requests currently exists for projects proposed on Forest Service lands⁵ and formal application of standards and guidelines may ensure expedited and standardized responses and approvals of permits. Applicants would know in advance the standards and guidelines they are expected to meet and could determine whether following the mitigations would be too costly and time-consuming to proceed.

Management actions that prioritize habitat for acquisition and limit disposal of these lands would assist the BLM and Forest Service in prioritizing future land tenure and land ownership adjustments. Land tenure and land ownership adjustments are intended to maintain or improve the efficiency of BLM and Forest Service management. However, these same actions could reduce the flexibility for BLM and Forest Service to consolidate public lands for effective management of other resources.

Table 3-5. Management indicators for assessing effects to lands special uses—alternative B (proposed action)

Issue	Management Indicator	Changes from Existing Condition
Economics	Potential changes in opportunities for the development of alternative energy resources (i.e., solar, wind, etc.) or other developments, including powerlines and communication sites	Process could be streamlined over existing situation: some areas would not be available for development or access
	Anticipated modification to permits during renewal process	Additional requirements to structures

⁵ Personal communication, USFS, 2013.

Summary of Effects. Effects are expected to be minor to “Lands” special uses, with the exception of those proponents who expect and want a specific location and season in order to conduct their activity. Those individuals or businesses could experience inconveniences and occasional financial burdens in order to adopt the stipulations required. Effects are expected to be minor to land ownership adjustments.

Alternative C

Under this alternative, standards and guidelines that are more conservation oriented and more restrictive to “Lands” activities are proposed in order to meet Goal 2: *Bi-state DPS and habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.* These standards and guidelines were developed from input received from the public, other agencies, the national sage grouse conservation efforts, and the National Technical Team report.

Standards and guidelines in alternative C would include additional restrictions on proposed and existing activities in the amendment area.

Direct and Indirect Effects. This alternative would have the most effect on the “Lands” special uses program due to more restrictive standards and guidelines. Applicants wishing to develop alternative energy or communication sites would be required to identify locations outside of bi-state DPS habitat. This could result in structures located on non-Federal lands that may not have strict guidelines for bi-state DPS habitat protection. Restricting the establishment of new communication sties could mean the potential for no cellular phone service for people needing this level of safety in emergency situations.

Applicants seeking new rights-of-way or developments with structures greater than 8-feet tall would need to identify alternative locations due to restrictions. As rights-of-way permits come up for renewal, permit holders would incur additional expenses to install anti-perching devices and new permit holders would need to figure in costs of this additional requirement should their developments reach the height limitation. Burial of powerlines would be costly and time-consuming for permit holders and may present such a financial burden that applicants may decide to find locations with less stringent requirements.

The 4-mile requirement for taller structures could substantially limit new development in much of the amendment area. Determining alternate locations that did not fall within the restricted area would be time-consuming for the applicant.

Reclamation of relinquished rights-of-way, if found to be feasible, would be expensive and require additional environmental analysis. Increased workloads to accomplish this as well as to include stipulations in renewing permits would mean longer waiting times for applicants.

Access would only be allowed through existing routes, and new roads would only be constructed in limited circumstances. Those wishing the convenience of new routes would not be accommodated. However, access to private lands would still be provided under the applicable provisions of Alaska National Interest Lands Conservation Act.

Requiring those with existing rights to co-locate could limit options for selection of preferable locations for rights-of-way.

Potential future development of renewable energy would be reduced or eliminated within occupied habitat. This would force development to occur outside occupied habitat and/or on private lands.

By determining exclusion areas and standards, the BLM and Forest Service would be more transparent regarding lands that have fewer restrictions to future development. Renewable energy companies would

know what lands are available and open to development. This could reduce preparation and selection of potential site time for companies since they would already know what areas were not available.

Table 3-6. Management indicators for assessing effects to lands special uses—alternative C

Issue	Management Indicator	Changes from Existing Condition
Economics	Potential changes in opportunities for the development of alternative energy resources (i.e., solar, wind, etc.) or other developments, including powerlines and communication sites	No large-scale facilities in habitat; restrictions on rights-of-way; height and location restrictions
	Anticipated modification to permits during renewal process	Additional requirements for structures

Summary of Effects. Effects of this alternative could range from minor to moderate depending on how invested an individual or business is in their proposal or existing event/development. Retro-fitting existing powerlines or structures, for example, could cause significant business expenses for some, but less for others, depending on the amount of development affected.

Cumulative Effects for Alternatives B and C

Cumulative effects to lands special uses management within the amendment area boundary would relate to other administrative or Forest and BLM management activities occurring within or immediately adjacent to the amendment area. Past and present actions are described in the affected environment section. Foreseeable actions relevant to the cumulative effects analysis for lands special uses include:

- Revision and amendment of land management plans for both agencies and associated changes in policy and direction relating to sage grouse other than the bi-state DPS.

The spatial boundaries for analyzing the cumulative effects to lands special uses are the amendment area and immediately adjacent public lands, because often, restrictions and management actions on adjacent public lands can shift proponents to areas where restrictions are not in place.

The temporal boundaries are short term and temporary, occurring during a single season (direct effects), or longer term (indirect effects).

Due to other sage grouse planning efforts regionally, there could be an effect on lands special uses, depending on decisions made in those efforts when combined with changes in management under alternatives B and C. Future renewable energy and communication site project proponents may begin to see less available opportunities on public lands on a regional basis. Additional restrictions in bi-state DPS habitat determined through concurrent planning efforts may cause applicants for large-scale alternative energy developments or rights-of-way to have difficulty in finding adequate locations for their facilities.

Effects on Economics Issues

Affected Environment

This section discusses the baseline social and economic conditions of communities surrounding Federal lands with bi-state DPS habitat. Existing socioeconomic conditions provide context in which changes in the social, cultural, and economic environment resulting from public land management decisions can be assessed. The economic study area is made up of six counties in Nevada and California that contain bi-state DPS habitat, and whose economic conditions might reasonably be affected by alternative management actions.

The socioeconomic study area includes two counties in California (Alpine and Mono) and four counties in Nevada (Douglas, Esmeralda, Lyon, and Mineral) (Table 3-7). While bi-state DPS and its habitat also occur in Inyo and Tuolumne counties and Carson City, these counties/city are not considered part of the economic study area for this project because management of sage grouse in those areas is not subject to the management direction proposed in the plan amendment.

Economic Conditions

Economic analysis is concerned with the production, distribution, and consumption of goods and services. Economic activities that rely or could rely on public lands, such as recreation and livestock grazing, are the economic activities that are most likely to be affected by the proposed amendment.

Employment in the study area includes the 13 aggregated industrial sectors, of which the agriculture, mining, and hunting and fishing sectors are commodities-based sectors in the study area that provide resource-based employment in the study area. Portions of these sectors rely on the availability of resources on public lands. Regulatory mechanisms that limit access to resources on public lands could affect businesses and, thus, employment in these resource-dependent sectors. For information on all economic sectors in the study area, see the Economics Specialist Report.

The travel and tourism sector includes a combination of retail trade, passenger transportation, arts, entertainment, recreation, and accommodation and food employees (Headwaters 2013). Tourism-related employment is a substantial portion of total employment in the study area (except Esmeralda County), but it has declined by 27.2 percent between 1998 and 2011 (Headwaters Tourism 2013). During this same period non-travel and tourism employment grew by approximately 21.9 percent (Headwaters Tourism 2013). The average total travel and tourism employment for the study area was 38 percent (Headwaters Tourism 2013). In 2011 accommodations and food was the largest component of travel and tourism-related employment (32.6 percent of total jobs) in the study area, and passenger transportation was the smallest (0.2 percent of total jobs).

Most of the economic activity in the study area is concentrated in Douglas and Lyon counties, which combined supports approximately 79 percent of total local employment in the study areas.

For more specifics about the existing economic conditions please see the Economics Specialist Report in the project record.

Table 3-7. Total local employment by the agriculture, forestry, fishing and hunting, and mining economic sectors, 2012

	California		Nevada			
	Alpine County	Mono County	Douglas County	Esmeralda County	Lyon County	Mineral County
Civilian employed population >16 years	529	8,001	21,172	340	20,198	1,761
Agriculture, Forestry, Fishing and Hunting, Mining	6	313	359	105	344	84
Percent of Total Civilian employed population >16 years						
Agriculture, Forestry, Fishing and Hunting, Mining	1.1	3.9	1.7	30.9	1.7	4.8

Note: The individual county numbers are based on the total private employment for the individual counties (340 persons greater than 16 years of age [Headwaters Demographics 2013]).

Between 1970 and 2011 the combined population of the study area increased 332.6 percent. Details about population changes can be found in the Economics Specialist Report. The growth in population was followed by a growth in employment. During the same period (1970 through 2011) employment in the study area grew 244.8 percent (Headwaters 2013). These statistics indicate that the study area has experienced 40 years of steady growth indicating that the economy has been healthy and prosperous.

The following section provides brief summaries of the demographic and economic trends for each of the six study area counties relating to the agriculture, mining, and hunting and fishing sectors and overall unemployment. Refer to “Study Area Demographic and Economic Data” (Headwaters 2013) for complete demographic and economic data tables (see the project record). The county descriptions below are primarily derived from county websites, and data from the U.S. Census Bureau.

Nevada

Four counties in Nevada are wholly or partially within the planning area.

Douglas County. Douglas County is located on the northern edge of the project area. Due to fertile soils on the valley floor, Douglas County has some of the most productive agricultural areas in the State and is able to support the population centers of Minden and Gardnerville. Many retirees also come to Douglas County for the scenic values and temperate climate, while many tourists frequent the area for recreation and gaming opportunities (Douglas County, Nevada 2012). These populations support the four largest employment sectors in the area: education, health care, entertainment, and recreation (Headwaters 2013).

Douglas County is also the most suburban county in the study area, providing housing and retail opportunities outside Carson City. Recreation opportunities range from fishing and river rafting to horseback riding and ATV (all-terrain vehicle) tours. Hiking and biking are also major recreation activities. Over the past several years, Douglas County has seen an increase in demand for healthier tourism activities, prompting them to create a network of both urban bike paths and mountain biking trails.

Unemployment rates have increased over the past several years, with a low of 4.3 percent in 2004 and a high of 14.5 percent in 2010. The unemployment rate for 2011 was 14.4 percent (Headwaters 2013).

Esmeralda County. Esmeralda County is a rural county with a large amount of undeveloped open space. The sparsely populated county relies on a mining, ranching, and agricultural economy, as well as tourism, recreational resources, and an emerging potential for renewable energy production (Esmeralda County 2010). Recreationally, Esmeralda County offers hunting, fishing, hiking, and four-wheel drive trails, as well as old mining camps and ghost towns (Esmeralda County 2011). There is a significant population of retirees in Esmeralda County. Fish Lake Valley, for example, has a 30 to 40 percent retirement base; and recreation, especially birding, is attractive for retirees.

Looking at the total private employment in the study area, Headwaters (2013) indicates that there are 340 private jobs in Esmeralda County, of which 15 are in the mining sector. No mining proprietors are counted in the 67 total business proprietors for the county; however, mining does occur in Esmeralda County, so we assume that to support the mining ventures in Esmeralda County the proprietors are from outside the county and a number of the workers for these mines also travel from outside the county.

Unemployment rates in the county have ranged from a high of 8.6 percent in 2000 to a low of 3.2 percent in 2007. Unemployment in 2010 was 8.3 percent (U.S. Department of Labor, Bureau of Labor Statistics 2011).

Lyon County. Lyon County is located in western Nevada, bordering California on its southern edge. The economy relies heavily on agriculture, both in rural areas and near the population centers of Fernley and Yerington (City of Fernley, Nevada 2012). Manufacturing and construction are also important employment sectors in Lyon County (U.S. Census Bureau 2010c). In the 1950s, the Anaconda Mine opened just west of Yerington and was the third largest open-pit copper mine in the world until it shut down in 1978 (City of Yerington, Nevada 2012). Lyon County has transformed from mostly rural areas to suburban areas as the Northern Nevada region continues to grow. For 3 out of the past 10 years, it has been one of the fastest growing counties in the United States (Lyon County, Nevada 2012).

Due to the close proximity to various lakes and rivers, freshwater fishing and boating are popular recreation activities, as is camping, visiting historic sites, and range shooting. There is a possibility that the Anaconda Mine will be reopened in the near future for production; however, there is a current effort by the Environmental Protection Agency and the mine's current owner to clean up the toxic remains at the site.

Unemployment rates have increased over the past several years, with a low of 5.5 percent in 2004 and a high of 17.8 percent in 2010. The unemployment rate for 2011 was 17.5 percent (Headwaters 2013).

Mineral County. Mineral County is located in southwestern Nevada, bordering California. Mining has been historically very important to the area, and there continues to be active mining operations as well as a high potential for future mineral extraction. The Marine Corps Mountain Warfare Training Center, located near Bridgeport, California, utilizes NFS lands and BLM land in Mineral County to perform training exercises.

Walker Lake, just north of Hawthorne, provides many recreation opportunities, including fishing and boating. Hunting, rock hounding, and OHV tours are also popular activities.

Mineral mining activities in the area help support the local economy, as well as hard rock mining. There is some interest in geothermal energy production near Aurora.

Unemployment rates have increased over the past several years, with a low of 5.4 percent in 2004 and a high of 13.9 percent in 2010. The unemployment rate for 2011 was 13.3 percent (Headwaters 2013).

California

The following California counties contain fragments of bi-state DPS habitat managed by the Carson and Bridgeport ranger districts. The descriptions below describe the entire county, which may not accurately represent the lands that would be affected by the proposed action or alternative C.

Alpine County. Alpine County is located in eastern California, just south of Lake Tahoe and bordering Nevada, and is the smallest county in California by both size and population. In the past few decades, however, outdoor recreation and tourism have increased the population and created a new, steady source of economic activity (Alpine County Chamber of Commerce 2012).

Much of the economy is supported by tourism, primarily based on two major ski resorts located outside the amendment area, and the outdoor recreation industry. About 96 percent of the land is under public ownership, providing plenty of space for snow sports, hunting and fishing, camping, and rafting.

Unemployment rates have increased over the past several years, with a low of 6.6 percent in 2006 and a high of 15.4 percent in 2010. The unemployment rate for 2011 was 15.1 percent (U.S. Department of Labor, Bureau of Labor Statistics 2012). These numbers do not account for expected seasonal layoffs that are common for recreation employers, such as ski resorts (Headwaters 2013).

Mono County. Mono County is located in the east central portion of California, to the east of the Sierra Nevada between Yosemite National Park and Nevada.

Mono county employment statistics indicate an emphasis on outdoor recreation in the economy with close to 30 percent of the working population employed in the art, entertainment, recreation, and accommodation sector.

Economic Contributions of Public Lands

Opportunities for income, employment, and leisure are important factors which help rural communities attract and retain local residents. In addition to employment and income contributions directly supported by forest management expenditures, natural resource and land uses in the project area stimulate economic activity in a wide range of industrial sectors. Although the project area accounts for only a small portion of the total land area that makes up the six-county economic analysis area, livestock grazing, outdoor recreation, and mineral development on these lands are vital to the economic health and well-being of the analysis area.

Economic Contributions of Livestock Grazing. Domestic livestock grazing is managed under the terms and conditions of current grazing permits until updated by allotment level NEPA analyses. Grazing potential for allotments containing bi-state DPS habitat is 85,886 AUMs (animal unit months) annually, if fully utilizing permitted AUMs. If permitted AUMs on allotments within the amendment area were fully utilized, the resulting economic activity would support approximately 100 jobs (direct, indirect, and induced) and \$1.9 million in wages and proprietor's income in the six-county study area. Although permit holders have the right to fully utilize permitted Federal forage, many local ranchers have taken voluntary reductions in recent years in order to maintain long-term range conditions. Over the past 5 years Forest Service and BLM have billed for less than half of all AUMs permitted within the amendment area. On annual average, there are 21,467 cattle AUMs and 13,661 sheep AUMs billed on active allotments in the amendment area. This forage is estimated to support 73 jobs (direct, indirect, and induced) and \$1.3 million in local income within the six counties.

Permit holders pay Federal grazing fees equal to \$1.35 per AUM. On annual average grazing fees associated with the amendment area are anticipated to generate more than \$47,000 in Federal revenue. In accordance with Federal and state statutes, a portion of this revenue is distributed back to state and local governments. Twenty-five percent of Federal revenue from livestock grazing on Forest Service lands is distributed back to Nevada and California to fund public schools and roads in the county when revenue was generated (16 U.S. Code § 500). The redistribution of Federal grazing fees from BLM lands depends on whether grazing allotments reside within or outside of a grazing district: Fifty percent of Federal grazing fees on section 15 (outside grazing district) and 12.5 percent of revenue from section 3 (inside a grazing district) are distributed back to the state under the Taylor Grazing Act. In Nevada, money derived revenue from the Taylor Grazing Act is deposited in the State treasury in a special fund designated the Nevada Taylor Grazing Act Range Improvement Fund and distributed back to counties proportionately for range improvement projects (Nevada Revised Statutes § 568.030).

Access to Federal forage is provided on the 87 allotments in the amendment area and support traditional uses and values associated with the ranching way of life. This includes longstanding bonds between local ranching families and these rangelands, which contribute to the preservation of ranching heritage and community values associated with livestock production.

Economic Contributions of Mineral Exploration and Development. On annual average there are 17,000 active mining claims within the amendment area. As described in the existing conditions, mining within the amendment area includes gold, silver, lithium carbonate, diatomite, sand, and gravel. Minerals

specialists expect that the production of gold, silver, diatomite, sand, and gravel would remain the same across all alternatives. Active mining claims are subject to an annual maintenance fee of \$155 per claim. These revenues are paid to the Treasury Department and put into a general fund to cover the cost of mine reclamation projects across the West. On annual average, maintenance fees associated with active claims within the amendment area generate more than \$2.6 million. Although there are no statutes which require these revenues to be used for reclamation projects in counties where fees were generated, some Federal funds collected through claim maintenance fees are spent on projects within the six-county area.

In addition to locatable minerals, 7,614 acres of geothermal resources in the Bridgeport District are leased and anticipated to be developed over the next 10 to 15 years. There are 22,174 acres of pending geothermal lease nominations within the Bridgeport District. Based on the reasonably foreseeable scenario for the amendment area, potential geothermal projects within the amendment area could eventually produce 25 megawatts of commercial electricity annually.

Federal, state, and county revenue would be generated from the leasing and production of 7,614 acres of geothermal resources currently leased, and the pending additional 22,174 acres of geothermal minerals. In accordance with the Energy Policy Act of 2005, a portion of geothermal revenues from lease sales, annual lease rents, and royalties on commercial production are distributed back to state and local governments. Under this statute the Federal government retains 25 percent of the revenues from royalties and leasing; 50 percent total revenue is distributed back to states to plan, construct, and maintain public facilities and provide public services; and the remaining 25 percent is returned to counties where Federal leasing and royalty revenue was generated.

While economic activity associated with mineral resources within the amendment area is estimated to support 217 jobs⁶ and \$11.4 million in wages and proprietor's income on annual average within the six-county local economy, these estimates likely understate the total economic contribution of amendment area minerals to the local economy. Additional local employment and income would be supported by saleable and locatable minerals extracted from the amendment area and from the redistribution of Federal revenue from future geothermal leasing and development. While these economic contributions could not be estimated because of data limitations, it is important to acknowledge that additional local employment and income may be associated with Federal minerals within habitat areas.

Economic Contributions of Recreation and Recreation Special Uses. Recreation is managed under current guidance and policy and existing recreation opportunities in the study area would be maintained. Recreational experiences supported by Forest Service and BLM lands within the amendment area contribute to the overall quality of life enjoyed by local residents and stimulate economic activity throughout the local economy. Recreationists traveling to these areas spend money in the local economy and stimulate employment and income in numerous industrial sectors that support the travel and tourism industry.

Recreation special uses and lands authorizations are managed under Forest Plan direction, interim guidance, and existing policy and direction. Site-specific environmental analysis would determine stipulations, timing, and location of use.

⁶ These jobs include full-time, part-time, and temporary jobs directly, indirectly, and induced by mineral development within the amendment area.

Environmental Effects

Alternative A – No Action

Direct and Indirect Effects. Alternative A is the no-action alternative. Although many of the regulatory mechanisms identified in the proposed amendment are already being applied to projects proposed in bi-state DPS habitat, current Forest Service forest plans and BLM resource management plans do not guarantee that mitigations will be consistently applied for each project type that occurs on public lands. Since there will be no formal change in the management of the amendment area under this alternative, resource use and associated economic activity with resources within the amendment area will be similar to those discussed in the affected environment.

Effects to Economic Contributions of Livestock Grazing: Alternative A, the no-action alternative, will not change the current grazing management in the amendment area. Domestic livestock grazing would continue under the terms and conditions of current grazing permits until updated by allotment level NEPA analyses. This alternative would not impact the ability of livestock operators to fully utilize permitted AUMs.

Since annual permitted use levels will remain unchanged under this alternative, alternative A is not anticipated to have any measurable effect on the social environment of surrounding communities. Management under alternative A will continue to reinforce the longstanding bonds between local ranching families and these rangelands and contribute to the preservation of ranching heritage and community values associated with livestock production.

Effects to Economic Contributions of Mineral Exploration & Development: Under the no-action alternative, management of mineral activities with the amendment area would proceed without any changes. Economic contributions under this alternative would be as described in the affected environment. Under this alternative, 22,174 acres of pending geothermal lease nominations within the Bridgeport District could be made available for leasing with no-surface-occupancy stipulations in habitat, with actual decision based on separate NEPA analysis. All commercial development of geothermal leases would have to be developed outside of bi-state DPS habitat.

Effects to Economic Contributions of Recreation and Recreation Special Uses: Under alternative A, recreation management would continue under current guidance and policy and existing recreation opportunities in the study area would be maintained. Economic contributions of recreation and recreation special uses would be as described in the affected environment.

Since access would not be limited seasonally, permanently or through modifications of permits except through normal permitting processes, alternative A would not result in impacts to revenue of commercial outfitters or managing agencies attributable to BLM special recreation permits and Forest Service special use authorizations.

Summary of Effects

Under Alternative A, there would be no change to current management direction and, therefore, no change from what is described in the “Affected Environment” section about the economic condition of the study area.

Cumulative Effects. There would be no cumulative effects associated with the no-action alternative since there are no direct or indirect effects to the economy in the study area associated with this alternative.

Alternative B – Proposed Action

Direct and Indirect Effects. Alternative B is the modified proposed action. This alternative includes more specific standards and guidelines identified for managing anthropogenic uses and to meet Goal 2: *Bi-state DPS and their habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.*

Effects on Economic Contributions of Livestock Grazing: Alternative B contains multiple standards and guidelines that are designed to eliminate or reduce negative impacts from domestic livestock grazing on bi-state DPS habitat. Although there would be no change in the amount of bi-state DPS habitat open for grazing, or in the number of AUMs permitted, the restrictive utilization standards under this alternative may result in changes in local livestock management practices. Reduced allowable utilization in bi-state DPS habitat will likely have a direct effect on livestock grazing.

Compliance with new utilization standards proposed under alternative B may result in changes in grazing systems, increased herding of livestock, shortened seasons of use, or reductions in permitted livestock numbers. While permitted use will remain constant, adjustments in seasonal use and restrictions on the construction of range improvements may further restrict the ability of livestock operators to fully utilize permitted AUMs. The extent of this is unknown and would be based on allotment-specific analysis.

Economic activity and Federal grazing fees generated from livestock grazing within the amendment area would be less under alternative B than under alternative A. Since site-specific analysis is needed to determine how this alternative will affect allotment use, changes in local employment, income, and county revenue from the redistribution of Federal grazing fees cannot be quantified at this time.

In addition to potential adverse economic impacts, reduced access to Federal forage under alternative B may have adverse social impacts which threaten the ranching way of life. The financial cost of offsetting less Federal forage with more expensive private or supplemental feed may force some local ranchers to transition land and other ranch resources from livestock production to other agricultural uses or abandon agricultural practices all together. Shifts away from these longstanding agricultural land uses may threaten traditional values of local ranchers and inhibit future generation's ability to learn and connect with the heritage of their ancestors.

Effects on Economic Contributions of Mineral Development: More restrictive standards and guidelines would be implemented under alternative B to improve vegetation conditions and to minimize negative impacts and increase positive impacts to bi-state DPS habitat from minerals management actions. Under this alternative, new leases, applications for permit to drill, and utilization plans would still be authorized after completion of site-specific NEPA, but would be subject to standard stipulations which would mitigate adverse effect on the bi-state DPS. Since valid existing rights apply, only new development (including proposals for mine expansion) would be subject to standards and guidelines implemented under this alternative

Alternative B would only have minor impacts on oil and gas exploration and production, but may have greater effect on management for other types of minerals. They would have a much greater impact on geothermal exploration and production. Consequently most geothermal exploration would likely take place outside of habitat. Solid leasable minerals would not be expected to be permitted in habitat, but existing gravel pits would likely continue some level of seasonal production. Locatable minerals would have impacts from site-specific NEPA and likely seasonal restrictions and other mitigations.

Since valid existing rights apply, alternative B should not have any effect on current gold, silver, lithium carbonate, diatomite, sand, and gravel production within the amendment area. Minerals specialists expect

that the production of gold, silver, diatomite, sand, and gravel would not change under alternative B; therefore, economic contributions would be the same as described in the affected environment.

Proposals to develop the 7,614 acres of geothermal resources in leases on the Bridgeport District would be required to include design criteria to mitigate adverse effects on bi-state DPS. All commercial development of geothermal leases would have to be developed outside of bi-state DPS habitat.

Effects of Economic Contributions of Recreation: Recreation could potentially be affected by implementation of alternative B. As described in the “Recreation and Recreation Special Uses” section, alternative B will not result in measurable impacts on recreation visitor days. Management actions under this alternative are not anticipated to have a net effect on annual recreational visits to the amendment area; therefore, economic activity associated with recreation to the amendment area would be similar to activity under alternative A. Recreation-related spending by visitors to the amendment area would continue to attract new money to rural communities and support local employment and income across the six counties.

Although permits and proposals for OHV events would need to be evaluated and modified if necessary, modifications are anticipated to be minor and may include stipulations on the location and timing of events. Since the majority of organized OHV events occur after lekking, and the distance needed to avoid sensitive habitat is relatively small, event organizers would likely be able to avoid impacts altogether without incurring addition costs. Thus, alternative B is not anticipated to result in a loss of commercial revenue to recreation service providers, or a loss of permit-generated fee revenue for the BLM and Forest Service as managing agencies.

Summary of Effects

Economic effects associated with this plan amendment are anticipated to be relatively minor.

There may be indirect effects associated with alternative B, which could include fluctuations in the costs passed on to project proponents wanting to develop a resource in the amendment area. There is a potential for additional costs for mitigations attached to a proposed action to reduce overall impacts to bi-state DPS habitat from the action. Other costs may be incurred because of timing limitations in place to reduce impacts to the bi-state DPS during specific periods of the year. At a larger scale—the economies of the six counties surrounding the amendment area—there should be very little noticeable effect on the economy or the distribution of income.

Cumulative Effects. Although social and economic conditions of the six-county study area may continue to change over the next 15 years, management actions proposed under alternative B are anticipated to provide Forest Service and BLM with the flexibility and authority to manage amendment area resources to mitigate adverse effects on bi-state DPS habitat and populations while continuing to support mandated multiple uses which contribute to the health and well-being of local communities.

Recent trends indicate that the region’s economic base is slowly transitioning from the agricultural sector to the service sector, the region’s growing travel and tourism industry. Although management actions proposed under alternative B would continue to support agricultural and recreational uses on Forest Service and BLM lands within the amendment area, range management under this alternative is recognized as having a potentially adding to this transition, thus having a negative cumulative effect on the social and economic agricultural climate of the six-county study area.

While an allocation decision is not being made in this EIS, standards and guidelines proposed under alternative B are anticipated to have a direct and indirect effect on forage use within the amendment area. More restrictive livestock grazing on the 87 allotments which contain bi-state DPS habitat has the

potential to be detrimental to social and economic vitality of smaller agricultural communities within the six-county study area. The degree to which more restricted use of allotments in bi-state DPS habitat will have cumulative effects on local communities and the regional agricultural sector depends largely on permittees' ability to adapt to standards and guidelines which may restrict their ability to utilize grazing forage under Federal grazing permits.

Alternative C

Direct and Indirect Effects. Under this alternative, standards and guidelines that are more conservation oriented and more restrictive to lands/recreation activities are proposed in order to meet Goal 2: *Bi-state DPS and their habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions.*

Effects on Economic Contributions of Livestock Grazing: Alternative C would close all grazing allotments containing bi-state DPS habitat. In the absence of grazing activities, no grazing fees would be collected and no local employment or labor income would be supported by livestock grazing on the 87 allotments within the amendment area. The prohibition of livestock grazing on these allotments would reduce local operators' access to affordable forage. Although forage provided by these allotments account for only a small portion of the annual forage needed to support local herds, forage on Forest Service and BLM allotments in the amendment area offset more expensive hay and grain feed during critical times of the year. To compensate for these forage losses permit holders would have to supplement forage with more expensive feed or find and graze on other private lands at an increased fee. Without access to Federal forage, many producers would be forced to drastically reduce their herd sizes or cease livestock production all together.

The elimination of livestock grazing on these Federal public lands would create a ripple effect in the local economy which would adversely affect employment and income in three ways: (1) direct effects attributable to employment associated with the ranches; (2) indirect effects attributable to industries that supply materials, equipment, and services to the ranches; and (3) induced effects attributable to personal spending by the ranch owners, employees, families, and supporting industries. In this manner, elimination of Federal grazing within the amendment area has the potential to effect employment and income in nearly every sector of the six-count local economy.

The potential social consequences of eliminating livestock grazing on Federal lands within the amendment area are not fully captured in traditional measures of employment and income. Socially, livestock ownership and ranch life is a way of life. For most ranching families, raising livestock is more of a tradition deeply rooted in their personal history than a job. Increased costs to feed and raise livestock may threaten the traditional values associated with ranch life and cause shifts away from longstanding agricultural land uses. As more lands are taken out of agricultural production, future generation's ability to learn and connect with the heritage of their ancestors will continue to decline.

Effects on Economic Contributions of Mineral Development: Similar to alternative B, standards and guidelines implemented under alternative C would include additional restrictions on proposed and existing activities in the amendment area to improve vegetation conditions and mitigate adverse effects of mineral development on bi-state DPS habitat and populations. Standards and guidelines under alternative C would be more restrictive to mineral development than those proposed under alternative B.

Many of the operating mines, existing gravel pits, and exploration projects would continue operating for a while but new proposals in habitat would be significantly curtailed on project proposals under alternative C. If implemented, the Forest Service would petition the BLM to withdraw the locatable mineral rights subject to valid existing claims from the habitat area. Once the withdrawal was completed no new claims

would be valid. Although current mining operations would not likely be impacted by the withdrawal of the mineral rights, their expansion and exploration potential would be substantially reduced.

The impacts to locatable mineral exploration and mining would be considerable. Valid existing rights followed by surface use determinations and/or validity exams would be performed on all new proposals for exploration and on existing mining claims. Although mineral specialists expect that the production of gold, silver, diatomite, sand, and gravel would remain the same across all alternatives, validity examines are expected to adversely affect mining of lithium carbonate because nearly one-third of lithium claims are located in bi-state DPS habitat. These validity exams would likely indicate many of the claims in habitat are invalid and create additional uncertainty around plan operation approvals, causing a 20 percent annual decline in the number of active mining claims within the amendment area over the next 10 to 15 years. On annual average, active mining claims within the amendment area would drop to 5,467 claims over the next 15 years. These claims would continue to require an annual maintenance fee of \$140 per claim which paid to the Federal government and put into a general fund to cover the cost of mine reclamation projects across the West. On annual average, maintenance fees associated with active claims within the amendment area generate more than \$76,000. Although there are no statutes which require these revenues to be used for reclamation projects in counties where fees were generated, some Federal funds collected through claim maintenance fees are spent on projects within the six-county area.

Federal, state, and county revenue from leasing and production of geothermal resources would be as described for alternative B.

Under alternative C, bi-state DPS habitat would be closed to additional fluid mineral leasing. All parcels located in bi-state DPS habitat currently nominated for leasing would be deferred and the development of Federal fluid mineral resources would have to come some distance outside habitat. Restrictions on leasing and development of fluid minerals within bi-state DPS habitat would adversely affect the potential for commercial geothermal energy production in the amendment area. Under this regulation option, development of geothermal resources in the amendment area could result in the commercial production of 10 megawatts of geothermal energy. While additional economic impacts would be generated from the construction and operation expenditures for geothermal electricity development, the commercial production of 10 megawatts anticipated under this alternative is estimated to support approximately 30 jobs and \$1.5 million in wages across the six-county study area on annual average over the next 15 years.

The leasing and development in fluid minerals under this alternative would generate Federal revenue from lease sales, annual lease rents, and royalties on commercial production, with distribution as described in the affected environment. Since leasing and production of geothermal resources would be lowest if this alternative was chosen it would be anticipated to produce the least amount of Federal, state, and county revenue from activities associated with fluid minerals within the amendment area.

Effects on Economic Contributions of Recreation: Recreation opportunities could be affected the most under implementation of alternative C. Restrictions on seasons, locations, and access could change the way people recreate in the amendment area. As compared to alternative B, a small number of additional acres within the amendment area would be closed for cross-country OHV recreation, and users that enjoy this type of recreation would be displaced to other locations or would be limited to designated roads and trails. Although the quality and quantity of motorized recreational experiences in the amendment area may adversely effected by management actions under alternative C, opportunities for non-motorized recreation, such as hiking, horseback riding, and hunting, in a more natural or primitive setting may be expanded and enhanced. It is unclear to what extent additional non-motorized recreational opportunities could offset losses in motorized use. While management actions under alternative C may cause displacement, overall visitation is not anticipated to change much because the amendment area contains a number of substitute sites that would suit visitors' needs.

Overall changes in the number of BLM special recreation permits and Forest Service recreation permits from standards and guidelines proposed under alternative C are anticipated to be relatively small. Permit modifications under alternative C would include more extensive stipulations on the location and timing of OHV events than under alternative B. While there would be numerous alternative locations for OHV events and outfitter-guide activities outside of bi-state DPS habitat, permit holders who still wanted to hold events or guide clients would need to identify alternative locations and routes to minimize adverse effects on bi-state DPS. Permit holders and applicants could incur additional costs and longer timelines in order to obtain permission for their events and some past OHV event participants might be deterred by changes in event locations and timing. Although changes in recreational activity within the amendment area may result from the implementation of alternative C, it is not possible to quantify these economic effects.

Summary of Effects

Economic effects associated with this plan amendment are anticipated to be relatively minor.

There may be indirect effects associated with alternative C, which could include fluctuations in the costs passed on to project proponents wanting to develop a resource in the amendment area. There is a potential for additional costs for mitigations attached to the alternative to reduce overall impacts to bi-state DPS habitat from permitted or authorized actions. Other costs may be incurred because of timing limitations in place to reduce impacts to the bi-state DPS during specific periods of the year. At a larger scale—the economies of the six counties surrounding the amendment area—there should be very little noticeable effect on the economy or the distribution of income.

Cumulative Effects. Restrictive standards and guidelines proposed under alternative C would have direct and indirect effects on the social and economic conditions of the area. It would both eliminate livestock grazing and significantly reduce mineral exploration and development within the amendment area.

Potential cumulative effects associated with changes in recreation under this alternative are anticipated to be minimal. Management actions proposed under other Federal public lands planning efforts in the region may adversely affect substitute recreation sites' ability to support opportunities for activities that are restricted within the amendment area. As a result, regional opportunities for some recreational motorized uses may be reduced in the long term. Potential long-term net losses from the restrictions in the amendment area and other areas undergoing planning efforts to address sage grouse habitat could have an adverse cumulative effect on employment and income in the region's service sector.

The cumulative effects associated with the additional restrictions for fluid minerals would be minimal. Since it inhibits future fluid mineral exploration and development in bi-state DPS habitat, reduced access and ability to develop high potential geothermal resources in these areas may limit growth in the region's budding geothermal industry. Since large amounts of high potential geothermal resources exist outside bi-state DPS habitat, restrictions on exploration and development in the amendment area are anticipated to have a relatively small effect on regional geothermal activities over the next 10 to 15 years.

Effects on the Management of the Wildlife Program on Federal Lands

The following section on effects to wildlife discloses specifically the potential effects to the bi-state DPS from this proposed plan amendment and organizes these effects by threat identified by the USFWS (USDI FWS 2013a). Analysis and determinations for other species including sagebrush-associated sensitive species, pinyon-juniper-associated sensitive species, Regional Forester's sensitive species, Nevada BLM sensitive species, and management indicator species are available in the biological assessment/biological evaluation in the project record. The determinations are summarized below.

Affected Environment

The analysis area consists of NFS and BLM lands that have been identified as bi-state DPS habitat. The management direction proposed in the action alternatives would apply to designated bi-state DPS habitat. The analysis area consists of 650,746 total acres of identified bi-state DPS habitat on Forest Service and BLM lands. Of these, about 426,809 acres (66 percent) occur on Forest Service lands and 223,935 acres (44 percent) are on BLM lands. Both the Bridgeport and Carson ranger districts on the Humboldt-Toiyabe National Forest contain bi-state DPS habitat, as do both the BLM Carson City District and Tonopah Field Office. Federal, state, and private ownerships occur within and outside the national forest and BLM district boundaries, and include bi-state DPS habitat.

Overview. The bi-state DPS comprises a genetically unique meta-population of greater sage-grouse that defines the far southwestern limit of the species' range. This genetic distinction may be the result of natural geologic events and subsequent long-term geographic isolation based on prevailing physiographic and habitat conditions.

The range of the bi-state DPS occurs over an area approximately 170-miles long and up to 60-miles wide. It includes portions of five counties in western Nevada: Douglas, Lyon, Carson City, Mineral, and Esmeralda; and three counties in eastern California: Alpine, Mono, and Inyo.

The bi-state DPS is characterized by available genetic, population, and habitat data as a genetically diverse, locally adapted meta-population consisting of several relatively small, localized breeding populations distributed among suitable sagebrush habitats throughout the bi-state area.

Two core sage grouse populations, Bodie Hills and Long Valley, occur in the Mono County portion of the bi-state area. These core areas annually comprise approximately 94 percent of all strutting males counted during annual lek surveys in California. Public lands administered by the BLM and Forest Service and private lands in the bi-state DPS area provide important habitat for populations of greater sage-grouse (Bi-state Technical Advisory Committee 2012).

Population and Telemetry Data Summaries. Greater sage-grouse have comparatively slower potential population growth rates than other species of grouse and display a high degree of site fidelity to seasonal habitats. While these characteristics would not limit greater sage-grouse populations across large geographic scales under historical conditions of extensive habitat, they may contribute to local declines where humans alter habitats, or when natural mortality rates are high in small, isolated populations such as in the case of the bi-state DPS. The best estimates for the bi-state DPS of the greater sage-grouse place the population between 1,833 and 7,416 individuals for the time period 2002 to 2012 (USDI FWS 2013b). Based on radio-telemetry and genetic data, the local populations of greater sage-grouse in the bi-state area appear to be isolated to varying degrees from one another. In addition to the potential negative effects to small populations due to genetic considerations, small populations such as the bi-state DPS are at greater risk than larger populations from stochastic events, such as environmental catastrophes or random fluctuations in birth and death rates, as well as disease epidemics, predation, fluctuations in habitat available, and various other factors (USDI FWS 2010).

Population information contained in the bi-state action plan is described by population management unit (PMU). The bi-state sage grouse amendment project area contains all or portions of five of six PMUs described in the bi-state action plan (Pine Nut, Desert Creek/Fales, Bodie Hills, Mount Grant, and White Mountains population management units). In addition, more specific information concerning bi-state DPS seasonal locations, movements, home range size, and mortality factors is described by Casazza et al. (2007).

Risk Factors. Risk factors and threats to the bi-state DPS were assessed and ranked by degree for individual PMUs by the Bi-State Technical Advisory Committee (Bi-State Technical Advisory Committee 2012). The USFWS also assessed risk factors and threats by degree in the proposed listing announcement (USDI FWS 2013a) and the Species Assessment Report (USDI FWS 2013d). Summaries of each assessment are provided below.

The bi-state action plan identified, ranked, and summarized sage grouse risk factors for each of the bi-state PMUs. Table 3-8 displays the risk factors, ranked low to high, for each of the PMUs. Among the risk factors, only pinyon-juniper encroachment is ranked “high” for all PMUs, while wildfire is ranked “high” for four of five PMUs and ranked “moderate” in the White Mountains. Risk due to invasive species (cheatgrass) is ranked “high” in the Pine Nut Population Management Unit, and “low” to “moderate” in the remaining PMUs within the assessment area. Other high ranking risk factors within the Pine Nut Population Management Unit include urbanization, disturbance due to OHV use, linear infrastructure, and wind energy development. Linear infrastructure was also ranked “high” in the Mount Grant PMU, as were mineral energy exploration and development and geothermal leasing and development.

Table 3-8. Bi-state DPS population management unit risk factors

Risk Factor	PMU/Risk Level				
	Pine Nut	Desert Creek/Fales	Bodie Hills	Mount Grant	White Mountains
Wildfire	High	High	High	High	Moderate
Pinyon-Juniper Encroachment	High	High	High	High	High
Invasive Species (Cheatgrass)	High	Low	Low	Moderate	Low
Urbanization	High	NI ¹	Moderate	NI	Moderate
Human Disturbance	High (OHV)	Moderate	NI	Low	Low
Infrastructure (Linear)	High	High	Moderate	High	Low
Predation	Moderate	Moderate	Low	Low	Low
Disease (West Nile Virus)	Not yet determined	Moderate	Low	Low	Low
Wind Energy Development	High	NI	NI	NI	NI
Wind Energy Testing	Low	NI	NI	NI	NI
Mineral Exploration and Development	NI	NI	Low	High	NI
Geothermal Leasing and Development	NI	NI	NI	High	NI
Sagebrush Habitat Conditions	NI	Moderate	NI	NI	NI
Grazing–Wild Horses	Moderate	NI	Low	Moderate	Moderate
Grazing–Permitted Livestock	Low	Low	Low	Low	Low
Recreation	NI	NI	NI	Low	NI

¹ NI = Not identified as a ranked risk factor.

Source: Bi-state Technical Advisory Committee, Nevada and California (2012).

Habitat Connectivity. Loss of habitat connectivity within and between the Pine Nut, Desert Creek-Fales, Bodie Hills, and Mount Grant PMUs is identified as a concern for long-term conservation. The major factor contributing to loss of connectivity for all population management units is pinyon-juniper

encroachment, with recent wildfires and urbanization also identified as contributing factors for the Pine Nut PMU (Bi-state Technical Advisory Committee 2012).

Risk Factors/Threats Identified by the U.S. Fish and Wildlife Service (USFWS). In the proposed listing announcement, the USFWS described threats associated with the bi-state DPS (USDI FWS 2013a). They determined that threats posing the most significant impacts to the bi-state DPS currently and in the future are nonnative and native, invasive species; wildfires and altered fire regime; infrastructure; grazing; and small population size and population structure. Other threats impacting the bi-state DPS to a lesser degree are urbanization and habitat conversion; mining; renewable energy development and associated infrastructure; disease; predation; climate change, including drought; and recreation. Table 3-9 displays threats to bi-state DPS identified by USFWS as well as USFWS degree of threat, and threat applicability to this project.

Table 3-9. Summary of threats to bi-state DPS identified by USFWS and applicable to this analysis

Threat	Degree of Threat to Bi-state DPS Identified by USFWS in Proposed Listing Rule	Risk Factor/Threat Applicability to/Affected by FS and BLM Land Management	Addressed in This Analysis
Nonnative and Native Invasive Plants	Significant Impacts	Applicable	Yes
Wildfires and Altered Fire Regimes	Significant Impacts	Applicable	Yes
Infrastructure	Adversely Impacting	Applicable	Yes
Livestock Grazing	Significant Indirect and Cumulative Impacts	Applicable	Yes
Small Population Size and Population Structure	Significant Impacts	Applicable	Yes
Urbanization	Localized Impacts	Applicable	Yes
Mining	Concern for Existing and Future Impacts	Applicable	Yes
Renewable Energy	Concern for Existing and Future Impacts	Applicable	Yes
Disease	Concern for Future Impacts	Applicable	Yes
Predation	Concern for Existing and Future Impacts	Applicable	Yes
Climate	Concern for Synergistic Impacts	Applicable	Yes
Recreation	Concern for Future Impacts	Applicable	Yes
Overutilization	Negligible Impacts	Not Applicable	No
Scientific and Educational Uses	Negligible Impacts	Not Applicable	No
Pesticides and Herbicides	Negligible Impacts	Applicable	No
Contaminants	Negligible Impacts	Applicable	No
Existing Regulatory Mechanisms	Inadequate to Address Existing and Future Threats	Applicable	Yes (as purpose of this project)
Synergistic Effects	Summary of Threats Listed Above	Applicable	Yes (in summary of threats listed above)

Source: USDI Fish and Wildlife Service (2013a).

A summary of the current condition of each of these threats as described in biological assessment/biological evaluation for this plan amendment is located in the project record and available upon request. Literature citations omitted here can be found in the proposed listing document (USDI FWS 2013a), herein incorporated by reference. Additional information is also available in the USFWS Species Status Assessment, Bi-State Distinct Population Segment of Greater Sage-grouse (Species Assessment Report, USDI Fish and Wildlife Service 2013b).

Environmental Consequences to Bi-state DPS by Threat as Defined by USFWS

Risk factors and threats identified by both the Bi-State Technical Advisory Committee and USFWS serve as a basis for analyzing potential effects of alternatives on bi-state DPS. Risk factors rated “moderate” or “high” by the Bi-State Technical Advisory Committee as well as those threats identified by USFWS as significantly or adversely affecting bi-state DPS rangewide or locally, are addressed below. Risk factors and threats for which management direction on applicable Federal lands would have no influence or associated effect (i.e., overutilization, scientific and educational uses) are not addressed. Synergistic impacts (as described by USFWS) are addressed as a result of the summary comparison of alternatives in meeting the conservation needs of bi-state DPS.

The tables of goals and objectives, and standards and guidelines by alternative are provided in chapter 2 Table 2-3 and Table 2-5) and are referenced here to disclose the differences in effects on risk factors and threats. Analysis of the action alternatives are often combined in the same sections below to better compare and contrast effects.

Nonnative and Native Invasive Plants

Alternative A (No-Action)

Under current management, the Forest Service and BLM utilize integrated weed management techniques to reduce the likelihood of invasive weed spread and the extent of current infestations. This issue is intimately tied to the threat from fire, and fuels management actions which can also reduce weeds and create fire breaks. Under alternative A, both the Forest and BLM would continue to implement noxious weed and invasive species control using integrated weed management actions per funding and plans in cooperation with state and Federal agencies, affected counties, and adjoining private lands. Though there are no specific objectives in Forest Plans to focus these efforts on cheatgrass or sagebrush communities, these activities improve bi-state DPS habitat along with other vegetation types, but do not specifically prioritize management in sage grouse habitats.

The no-action alternative does not take any specific actions to prevent pinyon-juniper encroachment, but does contain goals and objectives for maintaining, improving, or restoring sagebrush plant communities often for big game winter range and/or livestock grazing. Under alternative A, the Carson City District RMP (resource management plan) prescribes removal of 600 acres of pinyon-juniper overstory on selected sites in the analysis area via fuelwood harvest. No prescriptions or direction was found in any LRMP or RMP related to reducing pinyon-juniper encroachment to benefit sagebrush restoration. As signatories to the bi-state action plan (Bi-State Technical Advisory Committee 2012) the Humboldt-Toiyabe National Forest and BLM in Nevada have accomplished pinyon-juniper reduction projects as well as committed to future reductions in pinyon-juniper encroachment to benefit sage grouse habitats under the no-action alternative.

Alternatives B and C

Under the action alternatives, the Forest Service and BLM would continue to implement noxious weed and invasive species control using integrated weed management actions per existing plans to control, suppress, and eradicate noxious and invasive species, similar to direction provided under alternative A. In

addition, the action alternatives apply standards and guidelines designed to reduce occurrence and spread of invasive species resulting from fuel treatments and wildfire suppression (). While alternative A provides for a “rest” from grazing of areas disturbed by wildfire for 2 years, both action alternatives provide additional direction that would extend the rest period if desired vegetation conditions are not yet met. Both action alternatives address reduction of pinyon-juniper encroachment into sagebrush habitats by prescribing removal of pinyon-juniper phases 1 and 2 (i.e., pinyon-juniper stand with less than 50 percent canopy closure) near meadows and in proximity to leks.

Compared to alternative C, alternative B would incur a slight increase in risk in occurrence and expansion of nonnative invasive species by allowing prescribed fire treatments to occur in areas where cheatgrass is a minor component. While this would be allowed only outside sagebrush areas with less than 12 inches of annual precipitation or 12 inches of soil, there are likely to be areas where local conditions (i.e., aspect, soil type) are susceptible to cheatgrass spread after disturbance. Outside of sagebrush areas with less than 12 inches of annual precipitation or 12 inches of soil, alternative C incorporates direction to utilize mechanical treatments in areas with relatively low resistance to annual invasive grasses, thereby decreasing overall risk.

Wildfires and Altered Fire Regimes

Alternative A (No-Action)

Both prescribed fire and non-fire fuels treatments are allowed in current LRMP and RMPs, and fire suppression is prioritized to protect human life and specific resource values at risk. Some emphasis is placed on protection of sage grouse habitats. For example, under the Tonopah RMP, direction states that wildfires that threaten resources such as sage grouse strutting grounds will be kept to minimum acres. These policies do not avoid the use of prescribed fire in sagebrush habitat nor prioritize protection of sagebrush; thus, loss of habitat to wildfire and prescribed fire would continue. The no-action alternative would have the fewest restrictions for fuels management actions and has a high potential for vegetation disturbance leading to habitat loss and fragmentation. Because this alternative does not prioritize fire operations beyond what has already been determined in the fire management plans for the area, potential impacts may include: removing or degrading habitat, disrupting reproduction, causing changes in species movement patterns due to areas devoid of vegetation, and ultimately impacting local populations.

Alternatives B and C

Under the action alternatives, fuels treatments would be designed and implemented to emphasize protection of existing sagebrush ecosystems. Fuels management programs would consider sage grouse habitat needs by reducing the acres of sagebrush potentially burned in wildfires, or potentially lost or degraded during fuels treatment programs. Therefore, these policies would provide additional protection to bi-state DPS habitat in comparison to alternative A.

While both action alternatives reduce risk of habitat loss to wildfire and prescribed fire, two differences are notable. Whereas alternative B prescribes that fuels treatments should emphasize protecting existing sagebrush ecosystems, alternative C provides better focus of treatment priorities by prescribing application of preventative measures (i.e., fuel breaks and green strips) to protect more suitable habitat areas that contain greater than 25 percent landscape sagebrush cover (Table 2-3). In the event of wildfire occurrence in sage grouse habitat, alternative B decreases risk of negative impacts during suppression by prescribing immediate identification of important sage grouse habitats. The remaining elements provided under both action alternatives are similar in addressing threats associated with wildfires and altered fire regimes.

Infrastructure

Alternative A (No-Action)

Under current management, there is little management direction consisting of standards and guidelines pertaining to restriction or removal of infrastructure that poses risk to sage grouse. However, there are several mechanisms that allow managers some flexibility in addressing risk factors and threats. For example, the authorized officer has the ability to change stipulations of existing permits. Permits involving powerlines are issued on a case-by-case basis after environmental analysis during which burial of powerlines may be required on a site-specific basis. Concerning rights-of-way, most permits have language that authorizes the use, maintenance, and removal of improvements. Where the right-of-way itself is a historic feature, or the reclamation work may have additional unwanted adverse effects that outweigh the benefits, reclamation may not be required.

Alternative B and C

Under the action alternatives, a number of measures are incorporated to limit and/or remove infrastructure development to benefit sage grouse. These primarily address roads, structures, powerlines, and fences Table 2-3. Both alternatives prescribe removal of fences and other livestock-related infrastructure negatively impacting sage grouse. Both action alternatives reduce risk associated with right-of-way infrastructure by prescribing that, when informed a right-of-way is no longer in use, the right-of-way would be relinquished and the site reclaimed by removing powerlines, reclaiming roads, and removing other infrastructure, where such reclamation work does not have unwanted adverse effects. Both alternatives would require concentrating fluid mineral disturbance/facilities to reduce spatial impact to habitat, locating fluid mineral camps for workers outside of habitat, and burying powerlines where feasible to reduce overhead predator perches.

Although the above similarities exist, there are a number of elements provided under alternative C that more effectively minimizes or removes risk factors and threats associated with infrastructure when compared to alternative B. For example, alternative C provides no allowances for utility-scale commercial wind or solar energy facilities in bi-state DPS habitats, while alternative B provides allowance for industrial wind and solar facilities associated with existing industrial infrastructure (e.g., a mine site) to provide on-site power generation. In addition, alternative C would allow consent to fluid mineral leasing within habitat only under no-surface-occupancy stipulations. Also, alternative C would prohibit authorizing new mineral material compressor stations associated with fluid mineral uses inside habitats whereas new compressor stations with noise reduction design elements are allowed under alternative B. Alternative C would not authorize new high power transmission line corridors, transmission line rights-of-way, transmission line construction, or transmission line facility construction in habitat. Alternative B would not authorize construction of new high-power transmission towers within habitat unless technically infeasible elsewhere.

Several management elements associated with risk and threats are addressed by alternatives B by allowing uses and activities to occur with management restrictions, such as limiting total disturbance, prescribing no net unmitigated habitat loss, distance buffers, and structural modifications, in place designed to reduce, minimize, or remove negative impacts. Alternative B prohibits new recreation facilities in habitat unless they will have a neutral or beneficial effect to habitat up to 3 percent total anthropogenic disturbance limit. Livestock watering and handling facilities (corrals, chutes, dipping vats, etc.) or sheep bedding ground would not be located within 2 miles of an active lek and 0.6 miles from riparian areas. Alternative B would not authorize new fences in habitat unless necessary for safety or environmental protection reasons (applies to fluid minerals only). If fences are necessary, a sage grouse-safe design (e.g., marking) would be required. To the extent possible, fences would not be installed in habitat unless to protect habitat or for human health and safety. If fences must be installed, they shall be at

least 2 miles from active leks, and if possible, let down when not needed for the purpose of their installation. New communication sites in habitat could be authorized as long as development incorporates appropriate project design features and mitigation measures in design and construction (e.g., noise, tall structure, seasonal restrictions, etc.) and development results in no net unmitigated loss of habitat. Also, alternative B would not authorize construction of new high power transmission towers within habitat unless technically infeasible elsewhere.

In comparison, alternative C utilizes prohibitions and to some extent management restrictions to address similar elements. For example, new recreation facilities in sage grouse habitats would be prohibited, and livestock grazing and associated infrastructure would be removed (see “Livestock Grazing and Range Management” below); therefore, no infrastructure related to livestock would be constructed. To the extent possible, fences would not be installed in habitat unless to protect habitat or for human health and safety. If fences must be installed, they shall be at least 2 miles from active leks, and if possible, let down when not needed for the purpose of their installation; and there would be no authorization for new high-power transmission line corridors, transmission line rights-of-way, transmission line construction, or transmission line facility construction in habitat.

Overall, both alternatives B and C provide management direction that addresses risk factors and threats associated with infrastructure at a level that increases conservation of sage-grouse habitat in comparison to alternative A. The action alternatives are most effective in reducing risk where new infrastructure is prohibited and existing infrastructure is prescribed for removal. Alternative B retains a higher level of risk associated for several elements where infrastructure is allowed with no prescribed management restrictions, but substantially reduces risks and threats to sage grouse and sage grouse habitats when management restrictions such as distance buffers, structural modifications, no net loss of habitat and seasonal restrictions are applied. Alternative C provides the highest level of risk reduction associated with infrastructure.

Small Population Size and Population Structure (Isolation/Habitat Fragmentation)

The following information pertaining to small population size and population structure is summarized below from the USFWS Species Status Assessment, Bi-State Distinct Population Segment of Greater Sage-grouse (Species Assessment Report, USDI Fish and Wildlife Service 2013b). In order to assess each alternative’s contribution to reducing risks associated with small population size and population structure, this analysis will focus on effects to habitat quantity, quality, and connectivity.

Alternative A (No-Action)

Existing direction in the Toiyabe National Forest Land and Resource Management Plan (Toiyabe Forest Plan) pertaining to the amount of available habitat as well as managing for habitat suitability is displayed in Table 2-3. Elements include identification of important habitats, maintaining adequate sagebrush canopy cover and suitable meadow condition, management of seasonal habitats, maintenance of sagebrush and restoration of grass-forb components, as well as managing to maintain or increase populations and to support species viability and distribution.

For the BLM, the Carson City Field Office Consolidated Resource Management Plan (RMP) tiers to current habitat modification guidelines prepared by the Western Sage Grouse Committee of the Western Association of Fish and Wildlife Agencies. The Tonopah RMP prescribes application of management restrictions in key wildlife habitats, and states that wildlife habitats will be addressed at the project level with appropriate application of stipulations to meet wildlife objectives. The RMP also addresses cover, forage, and water availability, and prescribes implementation of habitat improvement projects where necessary to stabilize or improve unsatisfactory or declining wildlife habitat condition. It states that such projects will be identified through habitat management plans or other activity plans.

The 2013 Instruction Memorandum NV-2013-009 (Bi-State Distinct Population Segment of Greater Sage-grouse Interim Management Policies and Procedures) provides interim conservation policies and procedures to BLM field officials to be applied to ongoing and proposed authorizations and activities that affect the bi-state DPS and its habitat. This direction ensures that interim conservation policies and procedures are implemented when the Carson City District or Tonopah Field Office (Battle Mountain District) authorizes or carries out activities on public land during the current revision of the District's RMPs. Instruction Memorandum NV-2013-009 provides more specific management direction for (1) protection of unfragmented habitats; (2) minimization of habitat loss and fragmentation; and (3) management of habitats to maintain, enhance, or restore conditions that meet bi-state DPS life history needs on BLM lands.

Management direction is also found in the current Humboldt-Toiyabe National Forest Plan as well as Carson City District and Tonopah Field Office RMP. Resource management plans address important elements for managing healthy sage grouse habitats. However, all but a few lack specific management direction that would ensure consistent application of measures recommended for supporting a sage grouse population that is low in numbers, isolated, and poorly connected within its distribution (as described above), and has decreased habitat availability, is easily disturbed, and for which a multitude of stressors exist locally and rangewide. For BLM lands, Instruction Memorandum NV-2013-009 provides more specific regulatory mechanisms for managing sage grouse habitats and provides consistency in management direction based on scientific recommendations. However, this direction was only intended to be in effect until BLM resource management plans are revised.

Alternatives B and C

Habitat Quantity and Quality. The action alternatives provide standards and guidelines specific to quantity and quality of sage grouse habitats. Some of these were described in previous discussions (see previous "Non-native and Native Invasives," "Wildfires and Altered Fire Regimes," "Infrastructure," and "Livestock Grazing and Management" sections) while others are applicable to "Urbanization," "Mining," "Renewable Energy," "Disease," "Predation," and "Recreation" risk factors and threats (discussed in separate sections below).

Primary mechanisms for providing adequate quantity of habitat consist of measures that curtail or preclude further habitat loss as well as those prescribing restoration of degraded or formerly suitable habitats. Both action alternatives prescribe removal of phase 1 and 2 pinyon-juniper located near meadows and near proximity to leks during habitat restoration projects. Both action alternatives would mitigate long-term negative impacts to the extent practicable as well as apply best management practices (BMPs) for each resource as appropriate to restore, conserve, and enhance bi-state DPS and its habitat as well as require buffers, timing limitations, or offsite habitat restoration for all new or renewed discretionary actions in bi-state DPS habitat to mitigate potential long-term negative impacts. Both action alternatives also address risk posed by further habitat loss due to management activities, but do so using different strategies and allowances.

Alternative B would require mitigation resulting in no net loss of habitat due to nondiscretionary actions, surface disturbance (fluid minerals), and pit expansion (mineral material use). Short-term habitat loss due to discretionary and nondiscretionary activities other than fluid minerals and mineral material pit expansion would not be mitigated under alternative B. Situations where this could arise include impacts to meadows or grass-forb component of other habitats where the site may be impacted for one to several years with the expectation that the site would be restored in a relatively short timeframe. In addition, for fluid minerals, allowable surface disturbance would be limited, where technically feasible and consistent with valid existing rights, to an average of one site per 640 acres on average, with no more than 3 percent total anthropogenic surface disturbances within habitat.

Alternative C requires that site-specific project mitigation occurs if needed to insure no unmitigated net loss of habitat due to anthropogenic disturbance. There is direction to manage bi-state DPS habitats so that total anthropogenic disturbances affect less than 3 percent of the total sage grouse habitat on Federal lands within the Bodie Mountain/Grant, Desert Creek/Fales, and White Mountains population management unit (PMU) boundaries and less than 1.5 percent in the Pine Nut PMU (due to higher presence of risk factors in this PMU). Alternative C also requires management to assess habitat availability at the landscape scale Table 2-3.

In comparison, alternative B mitigates potential habitat loss due to nondiscretionary fluid mineral and mineral material sites, and for other activities that pose a long-term negative impact to sage grouse, and limits fluid mineral uses to less than 3 percent disturbance. However, alternative C would require that all habitat-disturbing activities be mitigated ensuring no net loss of habitat and that habitat availability be assessed at a larger scale. In addition to no net loss, all activities would be limited to 3 percent or less disturbance of habitats within corresponding PMUs, thereby further reducing risk of habitat loss due to management activities compared to alternative B.

Habitat quality is addressed under both action alternatives. Alternatives B and C reduce disturbance to sage grouse by directing to time implementation of habitat restoration projects so they cause the least disturbance to bi-state DPS individuals, and populations as possible. Both also require buffers, timing limitations, or offsite habitat restoration for all new or renewed discretionary actions in bi-state DPS habitat to mitigate potential long-term negative impacts. Alternatives B and C also prescribe restoration of native (or desirable) plants and create landscape patterns which most benefit bi-state DPS. Both action alternatives are similar in providing for increased habitat quality in comparison to alternative A.

Connectivity. The bi-state DPS landscape is fragmented by areas of agriculture and urbanization, as well as areas of naturally-occurring and encroaching pinyon-juniper. Sage grouse habitats within and between PMUs are often separated by stretches of unsuitable areas that may inhibit sage-grouse movements across the landscape. Both alternatives B and C provide a limited amount of management direction to maintain or enhance suitability of connective area. Alternatives B and C include a goal about habitat and movement and an objective of improving degraded habitat, including areas with conifer encroachment (i.e., pinyon-juniper). Standards and guidelines relating to connectivity under both alternatives apply primarily to mineral uses. Alternative B prescribes for mineral uses that, in connective area, maintain vegetation characteristics suitable to sage grouse to the extent technically feasible. Alternative C states that where valid existing rights exist, in connective area, maintain vegetation characteristics suitable to sage grouse to the extent technically feasible. In addition, alternative C provides additional direction though not specific to connectivity which states, "Vegetation treatments and post-disturbance restoration should seed and/or transplant sagebrush to restore large patches of sagebrush cover and connect existing patches" (C-Wild-S-02).

Given the fragmented nature of the bi-state landscape and the level of apparent isolation of subpopulations, additional management direction for connective area may be necessary to facilitate sage grouse movement, reduce isolation, and increase genetic interchange between subpopulations.

Connective areas within the amendment area have been mapped, though the mapping process and connective area polygons will continue to be updated as additional information is gathered (Figure 3-1). Mapping was conducted using 2010 National Agriculture Imagery Program (NAIP) satellite imagery, modeled terrain and topographic map information, Landfire vegetation data (LANDFIRE 2014), and sage grouse telemetry locations provided by U.S. Geological Survey, Western Ecological Research Center, Dixon Field Station. Telemetry locations were used to indicate concentration areas as well as movement patterns of sage grouse between habitats. Mapped areas were located with consideration for movement within the amendment as well as movement to bi-state habitats outside the amendment area.

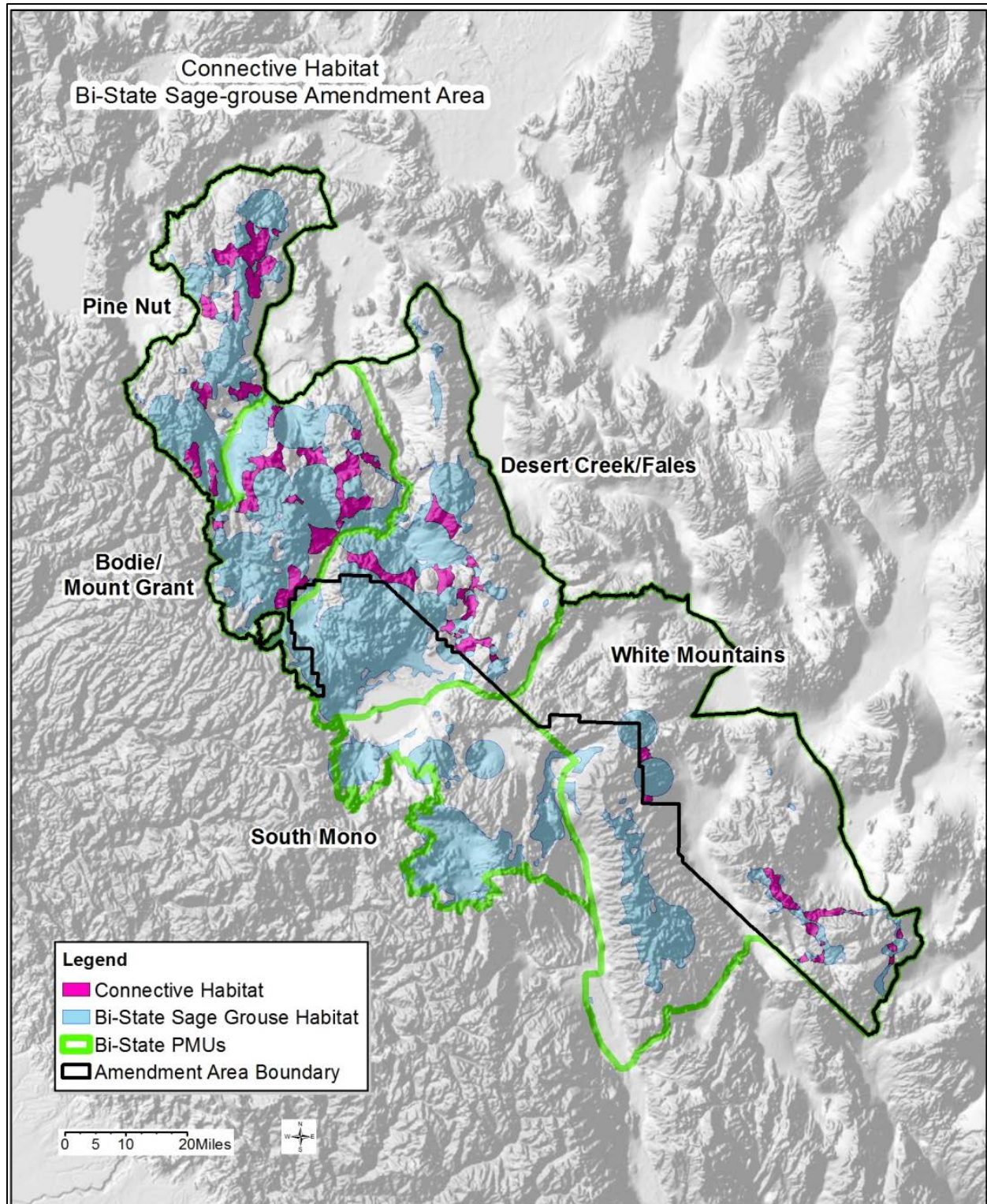


Figure 3-1. Proposed connective area, alternatives B and C

Urbanization

Alternative A (No Action)

Current direction pertaining to retention of existing sage grouse habitats currently under Forest Service or BLM ownership is largely lacking. The Tonopah RMP directs retention of BLM ownership of lands within 2 miles of nesting habitat and BLM policy is that lands are retained unless specifically identified for disposal.

Alternatives B and C

The action alternative s address the threat of urbanization identically through management direction that prescribes (1) retention in Federal ownership of sage grouse habitats unless relinquishing these lands provides a net benefit to sage grouse, and (2) identification of private parcels containing bi-state DPS habitat for inclusion in the land acquisition plan. The net effect would be no loss of Federal lands with habitat (unless beneficial to bi-state DPS) as well as potential acquisition of private lands that may otherwise be developed or converted to non-habitat.

Mining: Minerals/Energy Development (Including Geothermal Leasing)

Alternative A (No-Action)

Management direction under alternative A provides some measures of protection from mining activity-related disturbance.

Under the Toiyabe LRMP, sage grouse protections are implemented on a project-by-project basis according to goals, desired future conditions, and standards and guidelines described for sensitive species and their habitats. No management direction pertaining to mineral and energy development and sage grouse disturbance was found in the Toiyabe LRMP.

Under the Tonopah RMP, seasonal restrictions are prescribed to avoid disturbance. In the Carson City District, restrictions are established in the spring and early summer for six sage grouse strutting grounds (leks) pertaining to oil and gas leasing as well as geothermal leasing.

Alternatives B and C

Numerous elements have been incorporated into the action alternatives to reduce risk of mining-related activities to sage grouse and sage grouse habitats. These include mitigation of long-term effects, distance buffers and timing/seasonal restrictions, reclamation requirements, concentration of activities in previously disturbed areas, removal of unnecessary infrastructure, and incorporation of noise-reduction devices, all of which decrease risk in comparison to alternative A.

There are distinction between alternatives B and C concerning expansion of existing activities, permit renewal, and issuance of new permits for discretionary actions. Alternative C would not allow new sale of mineral materials in habitat and prohibits expansion of existing mineral material sites. This alternative also prescribes to petition the BLM to withdraw locatable minerals, subject to valid existing rights within habitat; and, upon expiration or termination of existing leases, do not consent to leasing if inquired by the BLM. In addition, alternative C would not allow consent to fluid mineral leasing within habitat unless only under no-surface-occupancy stipulation. Each of these restrictions would reduce potential surface disturbance to sage grouse habitat due to activities related to mineral activities. Alternative B would restrict mineral material activities similarly, but allows mineral material use and expansion of existing pits only with no unmitigated net loss of habitat. Alternative B does not require petitioning for locatable mineral withdrawal, nor does it preclude permit renewal for expired or terminated fluid mineral leases. Whereas alternative C precludes surface occupancy for fluid minerals, alternative B allows fluid mineral

surface occupancy subject to one site per square mile, with no more than 3 percent surface disturbance within habitat and requires incorporation of mitigation to ensure no net loss of habitat. Overall, both action alternatives reduce risk associated with mining, but alternative C provides a higher level of sage grouse habitat conservation.

Renewable Energy (Wind and Solar Energy)

Alternative A (No Action)

No direction pertaining to management of wind and solar energy resources was found in any of the land management plans addressed by this analysis. Lands special use proposals are analyzed through site-specific environmental analysis. Stipulations are included to minimize impacts to resources.

Alternatives B and C

Subject to other restrictions alternative B does not address risks posed by wind and solar energy facilities. It states that industrial wind and solar energy facilities may be authorized to provide on-site power generation. Alternative B provides no management guidance for utility-scale facilities. However, alternative C precludes utility-scale wind and solar facilities in habitat. Therefore, alternative B is similar to alternative A in addressing renewable energy risk while alternative C removes risk by precluding these facilities in sage grouse habitats.

Disease (West Nile Virus)

Alternative A (No-Action)

No provisions pertaining to reduction of sage grouse disease potential are found in alternative A.

Alternative B and C

The action alternatives each provide an identical measure to reduce risk of West Nile Virus. Requirement to drain tanks and troughs associated with range management is expected to decrease risk of West Nile Virus to sage grouse in comparison to alternative A.

Predation

Alternative A (No-Action)

No direction pertaining to management of risk to predation was found in any of the land management plans addressed by this analysis. Special use permits are issued on a case-by-case basis after environmental analysis, and may include stipulations to mitigate impacts to resources.

Alternatives B and C

The action alternatives address predation risk primarily through modifications and restrictions of infrastructure (i.e., perch sites) and proper treatment of refuse (i.e., predator attractants). Both alternatives preclude structures taller than surrounding vegetation in proximity to leks. Alternative B precludes such structures within 2 miles of lek centers while alternative C precludes tall structures within 4 miles of lek centers. Coates et al. (2013) reported that the average distance from sage grouse nest sites to leks was approximately 1.2 miles, while 95 percent of nest distribution occurred within about 3 miles of leks, 75 percent were within 1.4 miles, and 50 percent were within 1 mile. Therefore, the 2 mile restriction under alternative B could be expected to reduce predator risk for approximately 85 percent of nesting sage grouse whereas the 4 mile restriction under alternative C would reduce risk for an estimated 100 percent of nests. In addition, alternative C would provide additional risk reduction by requiring removal of all range improvements greater than 8-feet tall that could serve as predator perches within bi-state DPS

habitat. While both action alternatives reduce predation risk in comparison to alternative A, alternative C provides increased risk reduction compared to alternative B.

Recreation

Alternative A (No Action)

Alternative A provides some limitations on vehicle access under all Humboldt-Toiyabe National Forest and BLM land management plans pertinent to this analysis. The Toiyabe LRMP direction provides for seasonal or year-round restriction of off-road vehicle use in order to limit or avoid impacts to key wildlife habitats. It also prescribes that roads, trails, and “areas” will be designated in the ranger district travel plans and maps for motorized vehicle use, thereby preventing general cross-country off-road vehicle use. Under the Carson City RMP, vehicles are restricted to designated roads and trails in the upper elevations of the Pine Nut Range. In addition, all existing roads and trails will be designated open to off-highway vehicle use except where roads or trails impact sensitive meadows, seeps, springs and other waters as identified in the watershed decisions. Vehicles are excluded from any riparian area associated with meadows, marshes, springs, seeps, ponds, lakes, reservoirs or streams. Outside of these restrictions, there are portions of BLM lands currently open to cross-country vehicle travel.

Alternatives B and C

Both action alternatives contain management direction designed to reduce risk associated with recreation activities and infrastructure by requiring buffers and timing/seasonal use restrictions, proper containment and disposal of refuse, and restriction off-highway vehicle use. Primary differences between these alternatives concern restrictions associated with off-highway vehicle events, off-road travel on BLM lands, and authorization of outfitter/guide permits in proximity to leks.

Alternative B would restrict off-highway vehicle events in habitat to occur outside of winter habitats and outside of 3 miles from leks and only after 10 a.m. during the breeding period. While this would reduce potential disturbance to breeding at lek sites, it would continue to allow disturbance where birds are likely residing during the day after departing the breeding site and may negatively impact lek attendance if the disturbance is pronounced. Alternative C would preclude authorizing off-highway vehicle events in habitat thereby avoiding potential disturbance of birds during all seasons in all habitats.

Alternatives B and C proposed to limit motor vehicle use to existing roads, primitive roads, and trails until BLM completes route designation in habitat (B-AR-S-02) thereby reducing potential risk to sage-grouse associated with off-road travel. Because the Forest’s current travel management plans already restrict use to designated roads and trails, the effect of alternatives B and C on off-road travel is the same as for alternative A.

Lastly, alternative C provides no allowances for outfitter/guide activities with 4 miles of leks whereas outfitter/guide activities are not addressed under alternative B. This would reduce potential risk of disturbance due to horse and packing activities; however, the existing risk to sage grouse posed by outfitter/guide horse and packing activities is expected to be minimal or low.

Climate

Alternative A (No Action)

There are no elements contained in current land use plans pertinent to this project that are identified to reduce risk of climate factors.

Alternatives B and C

Both action alternatives are identical in providing reduction of risk associated with climate factors. Land managers should consider seed collection from the warmer component of the species current range when selecting native species for restoration. This is in response to projections of warming climates and subsequent effects to sage grouse habitats. Collection of seed from warmer portions of a plant species' range is expected to provide improved resilience of vegetation that is seeded or planted for restoration, thereby providing reduced risk to climate factors in comparison to alternative A.

Cumulative Effects on Bi-state DPS Summarized

The cumulative effects analysis area is the same as for direct and indirect effects, the bi-state DPS habitat within the amendment area boundary. There could be cumulative effects in addition to impacts described above under alternative A. Sagebrush habitat also occurs on private, state, and adjacent agency lands. There are some existing conservation measures on these other lands; however, there could be additional loss, degradation, or disturbance from recreation and travel, rights-of-way granted, energy and mineral development, range management, and fire and fuels management in sagebrush habitat. Although such effects off NFS lands and BLM public lands are speculative and cannot be quantified, the direct and indirect effects of alternatives B and C are expected to result in improvements in bi-state DPS habitat; therefore, the cumulative effects of Alternatives B and C would be the reduction of overall impacts to habitat in the analysis area relative to the continued effects of alternative A combined with those off of NFS lands and BLM public lands. Ongoing activities including Forest Service and BLM land management planning are likely to incorporate management direction that provides some level of protection and improvement of bi-state DPS habitats, but specific direction is not known. Past travel management plans on the Humboldt-Toiyabe National Forest have prescribed reductions in open road densities in addition to other travel restrictions that likely benefit sage grouse. Ongoing geothermal leasing on Humboldt-Toiyabe National Forest lands may have some measure of added effect, but cumulatively this is likely to be minor at the project area scale.

Summary of Alternative Comparison

This analysis addresses the potential impacts of each alternative on bi-state DPS and their habitats in terms of the following resource areas: isolation/habitat fragmentation, fire, invasive weeds, conifer encroachment, minerals /energy development, infrastructure, and livestock grazing/wild horses management. Of the 2.7 million acres of Forest Service and BLM lands within the amendment area, these action alternatives seek to modify management of sage grouse habitats on roughly 24 percent of those lands.

The primary difference between alternative A (no change in current direction) and alternatives B and C, is that the action alternatives would put into place regulatory authority and direction to protect and conserve bi-state DPS habitat and reduce negative effects associated with land management actions in the resource areas above. Under current circumstances, alternative A does not provide the regulatory mechanisms or assurances to protect, conserve, or enhance habitat to the extent desired.

By comparison, alternative C provides the highest level of risk and threat reduction by providing management direction in sage grouse habitat through standards that:

- (a) remove discretionary surface occupancy of minerals-related infrastructure,
- (b) remove livestock grazing,
- (c) provide for invasive grass control,
- (d) preclude construction of tall structures and transmission lines,

- (e) reduce risk of habitat loss to wildfire and fuels treatment,
- (f) preclude construction of new recreation, solar, and wind energy facilities,
- (g) restrict OHV use to existing routes,
- (h) reduce disturbance from existing discretionary and nondiscretionary activities, and
- (i) manage select areas between blocks of habitat to provide for more effective sage grouse movement on the landscape.

Alternative B provides management direction that would substantially increase conservation of sage grouse habitats and reduction of risks and threats in a manner that reduces risk factors and threats while still providing opportunities for multiple uses of resources. Whereas alternative C precludes some activities and uses described above, alternative B provides allowance for these uses with measures that reduce or mitigate negative impacts. For example, whereas alternative C removes livestock grazing in sage grouse habitats, alternative B allows continued grazing, but prescribes utilization standards consistent with science recommendations for continued grazing. The result is a substantial increase in conservation effectiveness for sage grouse habitats over alternative A, but retention of relatively higher level of risk in comparison to alternative C for some risk factors and threats.

Given the current state of bi-state DPS habitat and population overall, maintaining current management direction (alternative A) may not provide the regulatory mechanisms or the assurances required to protect bi-state DPS habitats and populations. In contrast, the action alternatives provide regulatory mechanisms expected to result in positive effects and assurances, which improve conditions for bi-state DPS within the amendment area.

Summary of Effects and Determination

There would be no action associated with alternative A; therefore this alternative would have no direct or indirect effects other than continuation of effects to bi-state DPS habitat under current management and cumulative effects of those effects with those occurring off of NFS lands and BLM public lands. Management direction provided under alternatives B and C increase protection of bi-state DPS habitats and consequently decreases risk to bi-state DPS individuals and population. Effects to bi-state DPS and their habitats due to alternatives B and C would be generally beneficial due to reducing anthropogenic influences to sagebrush habitats known and identified as such. By comparison, alternative C provides the highest level of reduction in risk factors and threats as stated above. Under current circumstances, alternative A does not provide the regulatory mechanisms or assurances to protect, conserve, or enhance bi-state DPS habitats to the extent desired. There would be beneficial effects to bi-state DPS as a result of implementing either alternative B or C. Therefore, the Bi-state Sage-grouse Forest Plan Amendment may affect individuals, but is not likely to contribute to the need for Federal listing or result in loss of viability for the bi-state DPS in the planning area.

Summary of Determinations for Listed, Proposed and Sensitive Species

- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment **may affect, but is not likely to adversely affect Sierra Nevada bighorn sheep or its critical habitat.**
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment **will not affect the following federally listed species or their designated critical habitat:**
 - ♦ Carson wandering skipper, southwestern willow flycatcher, mountain yellow-legged frog (Southern California DPS), Yosemite toad, least Bell's vireo.

- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment is **not likely to jeopardize the continued existence of the following species proposed for Federal listing, and is not likely to destroy or adversely modify proposed critical habitat**:
 - ♦ Greater sage-grouse, bi-state DPS; Sierra Nevada yellow-legged frog.
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment **may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the following sagebrush-associated sensitive species in the planning area**:
 - ♦ Pygmy rabbit, dark kangaroo mouse, desert bighorn sheep, loggerhead shrike, sage thrasher, and Brewer's sparrow.
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment **may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for the following pinyon-juniper-associated sensitive species in the planning area**:
 - ♦ Pinyon jay, ferruginous hawk, pallid bat, Townsend's big-eared bat, silver-haired bat, hoary bat, California myotis, western small-footed myotis, long-eared myotis, fringed myotis, long-legged myotis, Yuma myotis, western pipistrelle.
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment **will not affect all other Regional Forester's and Nevada BLM sensitive species** considered in this biological evaluation/biological assessment.

Summary of Determinations for Listed, Proposed and Sensitive Plant Species

- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment project will have **no effect** on the federally listed Webber's ivesia or its designated critical habitat.
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment project will have **no impact** on the following 53 sensitive species: Eastwood milkvetch, Cima milkvetch, Sodaville milkvetch, Tonopah milkvetch, Ames milkvetch, Toquima milkvetch, currant milkvetch, Elko rockcress, Washoe tall rockcress, Galena Creek rockcress, Tiehm rockcress, Tioga Pass sedge, Monte Neva paintbrush, Tecopa birdbeak, Goodrich biscuitroot, star draba, windloving buckwheat, Churchill Narrows buckwheat, altered andesite wild buckwheat, Tiehm buckwheat, smooth dwarf greasebush, rough dwarf greasebush, Sierra Valley ivesia, Dog Valley ivesia, Plumas ivesia, Lunar crater buckwheat, sagebrush pygmyleaf, Holmgren lupine, three-ranked hump moss, Tiehm blazingstar, Shevock rockmoss, Spjut's bristle moss, Oryctes, low feverfew, Nevada dune beardtongue, Pahute Mesa beardtongue, Lahontan beardtongue, bashful beardtongue, Tiehm beardtongue, Playa phacelia, Clarke phacelia, whitebark pine, Washoe pine, altered andesite popcorn flower, marsh bluegrass, White Mountain skypilot, Tahoe yellowcress, Blaine pincushion, Tonopah pincushion, Mono ragwort, Railroad Valley globemallow, Tiehm peppergrass, and Lone Mountain goldenhead.
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest and BLM Plan Amendment project **may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability** for the following 16 sagebrush-associated sensitive species: Margaret rushy milkvetch, Long Valley milkvetch, Lavin's eggvetch, Bodie Hills rockcress, upswept moonwort, dainty moonwort, slender moonwort, moosewort, Bodie Hills draba, Beatley buckwheat, sand cholla, Pine Nut Mountains mousetail, Wassuk beardtongue, Mono phacelia, Williams combleaf, and few-flowered streptanthus.

Summary of Determinations for Management Indicator Species

- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment project **will benefit habitat and will not cause populations to trend downward**, for the following management indicator species:
 - ♦ Greater sage-grouse
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment action alternatives **may impact habitat, but will not cause populations to trend downward**, for the following management indicator species:
 - ♦ Mule deer
- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment project will have **no impact** on all other management indicator species considered in this assessment.

Summary of Determinations for Migratory Birds

- The Greater Sage-Grouse Bi-State Distinct Population Segment Forest Plan Amendment project **will not lead to a downward trend in migratory bird populations and may improve habitat in the long-term for some species** covered by the Migratory Bird Treaty Act.

Species Viability Requirements

Regulatory Background. This amendment process is being conducted under the provisions of the enabling regulations for the National Forest Management Act, referred to as “planning regulations,” in place as 36 CFR 219 in 1982, as allowed for under the current planning regulations at 36 CFR 219.17(b)(3) issued in 2012. The NFMA, section 6(g)(3)(B) requires that Forest Plans: “provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives, and within the multiple-use objectives of a land management plan adopted pursuant to this section, provide, where appropriate, to the degree practicable, for steps to be taken to preserve the diversity of tree species similar to that existing in the region controlled by the plan...”.

Although the 1982 planning regulations were superseded by the current planning regulations, the 1982 planning regulations at 36 CFR 219.19 provide interpretation of the NFMA about the Forest Service’s responsibility to ensure viability during the planning process under the 1982 planning regulations. These include:

“Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area”.

- The emphasis is on habitat that is managed in a manner that species’ requisites are met when those species utilize NFS lands.
- Because most vertebrate species spend time (sometimes considerable) off of NFS lands, there are likely other threats to species’ viability over which the Forest Service does not have regulatory authority to control. The management of habitats to maintain viable populations is not the same as ensuring population viability.
- The scale of this requirement is the planning unit. Most national forests do not have sufficient habitat to meet viability requisites for vertebrate species at a range-wide scale. The distribution of these species is generally much larger than an individual unit. However,

individual Forests can manage habitats that contribute to this larger view of viability, and provide the persistence of species on NFS lands for relevant life history periods.

“For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area”.

- The emphasis here is that habitats should be managed on NFS units that allow for population and distribution of populations for persistence within the planning area, for life history periods when the species is dependent on those lands.

“In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area”.

- Emphasis on distribution within the planning area

These interpretations are being used, because the Forest Plan being considered for amendment under this EIS was developed under the 1982 planning regulations. The viability analysis is in the project record. To address the above interpretations, the viability analysis focuses on federally listed or proposed species, Forest Service sensitive species, management indicator species, or migratory bird species and the effects of the alternatives on (1) having those populations sufficiently well-distributed across the planning area, and (2) ensuring sufficient habitats are available to provide for population levels that are likely to persist on NFS lands.

Summary of Findings for Species Viability. Elements contained in the action alternatives were reviewed in consideration for effects to species population distribution as well as habitat availability. There are no elements contained in either action alternative that would negatively impact existing population distribution or existing habitat availability across the planning area for federally listed or proposed species, Forest Service sensitive species, management indicator species, or migratory bird species applicable to the planning area. Overall, elements contained in the action alternatives are expected to increase to varying degrees through restoration, the availability and distribution of sagebrush habitats, thereby maintaining or improving viability for sagebrush-dependent or sagebrush-associated wildlife species including the bi-state DPS.

Effects on the Management of Range and Grazing Programs on Federal Lands

Introduction

Domestic livestock grazing is a widespread use of the Forest Service- and BLM-administered public lands within the project area. This report will address the current grazing management within bi-state DPS habitat and the effect of the proposed action as it relates to grazing management.

Summary

Implementation of alternative B would eliminate or reduce negative impacts from domestic livestock grazing to the bi-state DPS and its habitat. Alternative B reduces allowable utilization in bi-state DPS habitat and requires maintenance of residual forage cover during the sage-grouse breeding and nesting season. Implementation of the residual cover and utilization standards could result in late turn-out and/or early removal of livestock from Federal grazing allotments which could lead to increased utilization and impacts to bi-state DPS habitat on private lands. Alternative B would result in changes to livestock

management to move rangeland condition toward or to maintain bi-state DPS habitat desired conditions. Livestock grazing could be modified by restricting areas open to grazing, changing grazing systems, adjusting seasons of use or class of livestock, and placing additional restrictions on the construction of range improvements. These changes could increase the grazing permittee's operating costs and reduce their permitted AUMs (animal unit months). The magnitude of these effects on current livestock management and any potential losses of permitted AUMs are unable to be predicted without allotment-specific assessments.

Implementation of alternative C would result in closing 87 grazing allotments and eliminating 85,886 permitted AUMs. Existing range improvements would be removed or modified to eliminate impacts to bi-state DPS and its habitat. Closing grazing allotments in bi-state DPS habitat could lead to increased utilization and impacts to bi-state DPS habitat on private lands.

Affected Environment

Domestic livestock grazing is currently authorized on approximately 66 percent of Forest Service- and BLM-administered lands within the amendment area. An additional 4 percent of the amendment area is included in vacant or closed grazing allotments.

There are 87 grazing allotments that contain bi-state DPS habitat within the amendment area. These allotments encompass 2,118,811 acres and contain 649,992 acres of bi-state DPS habitat. These allotments are currently permitted for 85,886 AUMs. Forty-three allotments are grazed by cattle and 29 are grazed by sheep. There are 15 additional allotments within the amendment area that are either closed or vacant for various reasons. About two-thirds of the permitted use is for spring and/or summer use and the other one-third is for fall and/or winter use. Table 3-10 summarizes the livestock grazing information within the amendment area.

Table 3-10. Livestock grazing information

Forest Service Ranger District or BLM District	Number of Allotments Containing Bi-state DPS Habitat	Allotment Acres	Permitted AUMs	Acres of Bi-state DPS Habitat in Allotments
Bridgeport Ranger District	50	796,088	33,744	376,705
Carson Ranger District	10	52,879	5,578	42,594
Battle Mountain District	5	704,290	18,520	57,459
Carson City District	22	565,554	28,044	173,234
Total	87	2,118,811	85,886	649,992

The Humboldt-Toiyabe National Forest manages 60 grazing allotments that contain bi-state DPS habitat. These allotments encompass 848,967 acres within the amendment area and are currently permitted for 39,322 AUMs. A total of 419,299 acres of bi-state DPS habitat is found in these allotments.

The BLM manages 27 grazing allotments that contain bi-state DPS habitat. These allotments encompass 1,269,844 acres within the amendment area and are currently permitted for 46,564 AUMs. A total of 230,693 acres of bi-state DPS habitat is found in these allotments.

The critical disturbance period for sage grouse is typically March 1 to June 30. Of the 87 grazing allotments containing sage grouse habitat, 55 have permitted seasons of use that overlap with the critical

disturbance period. There are seven allotments where the full season of use falls between March 1 and June 30.

The primary management objectives for livestock grazing have been to improve rangeland health, improve riparian functioning condition, and restore native plant communities. These objectives are accomplished through the strategic placement of range improvements (fences and water) and salt, use of rest-rotation and deferred rotation grazing systems, and herding. Annual adjustments are made according to forage availability and the prevalence of drought conditions or above-average precipitation.

Range improvements are found throughout the amendment area and help distribute livestock across the grazing allotments. Range improvements include fences and water developments. Fences are typically three- to four-strand barbed wire, although other types of fences are present. Water developments include reservoirs, developed springs, and wells. Developed springs and wells commonly include pipeline systems that distribute water to one or more metal, fiberglass, or rubber-tire troughs or tanks. Reservoirs and developed springs are typically located in drainages and depressions, while wells and their associated delivery tanks are typically located on uplands. Table 3-11 summarizes the range improvements in Bi-state DPS habitat.

Table 3-11. Range improvements within bi-state DPS habitat

Forest Service Ranger District or BLM District	Miles of Fence within Bi-state DPS Habitat	Number of Sections with Fence Densities >1.6 Miles per Section	Number of Watering Facilities within Bi-state DPS Habitat	Number of Handling Facilities within Bi-state DPS Habitat
Bridgeport Ranger District	173	22	89	7
Carson Ranger District	26	6	4	0
Battle Mountain District	4	0	2	0
Carson City District	9	1	0	0
Total	212	29	95	7

All grazing permits for allotments within bi-state DPS habitat have terms and conditions that set limits on allowable forage utilization. Limiting forage utilization ensures that residual forage is left as a metabolic reserve that plays an important role in photosynthesis after defoliation and protects the plant crown. Repeated overgrazing depletes the metabolic reserve, shrinks the root system, and results in plant mortality. This leaves the site vulnerable to erosion and invasion by noxious and invasive species (Holechek et al. 2011).

Current levels of allowable utilization for upland areas range from 25 to 60%. Riparian utilization standards range from 40 to 65%. In some allotments, stubble heights are used instead of percent utilization for riparian areas. Stubble heights range from 3 to 6 inches. Grazing permittees are responsible for ensuring that they manage their livestock to comply with the terms, conditions and utilization standards in their grazing permits, allotment management plans, and/or annual operating instructions. Permittees are required to monitor forage utilization levels and move their livestock to the next scheduled pasture or allotment or off of Federal allotments when the standards are met. Agency rangeland management specialists conduct monitoring of grazing allotments to verify if grazing permittees are in compliance with the terms and conditions of their permits, allotment management plans and/or annual operating instructions.

Forage utilization along with other range management actions has an effect on range condition or health. Many approaches have been used over the years to determine range condition. Traditionally, condition has been assessed by comparing the current vegetation seral stage to a potential climax community. Grazing has been assumed to act as a disturbance that sets a sagebrush community back from a climax stage and that release from grazing would allow the sagebrush community to return to that climax stage. Due to the complex dynamics of sagebrush communities and differing plant responses to grazing, concerns have arisen about the predictability of secondary succession to climax models for western rangelands (Holechek et al. 2011). The current trend in assessment of rangeland condition and grazing effects is based on indicators of soil characteristics and erosion, plant communities and underlying processes to evaluate the health of the ecosystem (National Research Council 1994).

In the bi-state area, the Forest Service and BLM conduct assessments of rangeland health on grazing allotments. The analysis techniques vary by managing office, but all use some combination of qualitative and/or quantitative methods to assess the biotic, hydrologic, and soil attributes within grazing allotments. Table 3-12 displays the current rangeland health assessments of allotments in bi-state DPS habitat.

Table 3-12. Rangeland, upland, and riparian health assessments

Assessment	Number of Allotments	% of Allotments
<i>Rangeland Health Assessment Status</i>		
Rangeland health assessment completed	58	67
Allotment status: active	50	57
Allotment status: other	8	9
Rangeland health assessment not completed	29	33
Allotment status: active	17	14
Allotment status: other	12	20
Total	87	100
<i>Upland Rangeland Health Assessments</i>		
Meets upland standards	43	74
Does not meet upland standards	7	12
Livestock grazing identified as a significant cause	5	9
Livestock grazing not identified as a significant cause	2	3
No data available ¹	8	14
Total	58	100
<i>Riparian Rangeland Health Assessments</i>		
Meets riparian standards	27	47
Does not meet riparian standards	8	14
Livestock grazing identified as a significant cause	6	10
Livestock grazing not identified as a significant cause	2	4
No data available ¹	23	40
Total	58	100

¹ Data has either been collected but not analyzed to determine rangeland health, or no riparian areas exist on the allotments.

In addition to rangeland health, long-term monitoring studies have been established on most allotments within bi-state DPS habitat. Long-term monitoring is critical to the determination of trend. Trend is the primary measure of long-term range management effectiveness (Holechek et al. 2011). As is the case with rangeland health assessments, long-term monitoring techniques vary by managing office, but all use some

combination of qualitative and quantitative methods to assess the direction of change for the biotic, hydrologic, and soil attributes at monitoring sites.

Monitoring is a critical component of rangeland management. It provides documentation of changes in resource status which should be used to make management adjustments and improve progress toward meeting management objectives or desired conditions. The Forest Service and BLM conduct monitoring at varying intervals to ensure compliance with grazing permit terms, conditions and forage utilization standards, document actual livestock use and assess rangeland health and trend. When resource problems are documented, livestock grazing management is adjusted to address the problems. A combination of grazing capacity, utilization, ecological condition and trend information is needed for sound management decisions (Holechek et al. 2011). Lack of a full complement of monitoring data to support the determination that livestock is a cause of the resource problem and justify the resultant corrective action has been identified as a concern (Veblen et al. 2014).

Environmental Effects

Management Indicators

Table 3-13 shows the indicators used in this analysis.

Table 3-13. Comparison of indicators by alternative

Indicator	Alternative A (No Action)	Alternative B (Modified Proposed Action)	Alternative C
Active AUMs in allotments containing bi-state DPS habitat	85,886	85,886	0
Restrictions to the ability to construct or maintain range improvements	No change	Increase	Increase
Allotment acres closed to livestock grazing in bi-state DPS habitat	0	0	2,118,811
Allotment acres open to livestock grazing that contain bi-state DPS habitat	2,118,811	2,118,811	0
Changes to timing, duration, or frequency of authorized use, including temporary closures	No change	Increase	Not applicable, no grazing use proposed

Alternative A – No Action

Direct and Indirect Effects. There are no direct or indirect effects to livestock grazing management from selecting alternative A. Domestic livestock grazing would continue under the terms and conditions of existing grazing permits until updated by allotment-level NEPA analyses.

Cumulative Effects. Because there are no direct or indirect effects, there are no cumulative effects if alternative A is selected.

Alternative B – Modified Proposed Action

Direct and Indirect Effects. The modified proposed action contains goals and objectives, and standards and guidelines that are intended to restore and improve bi-state DPS habitat and eliminate or reduce negative impacts to bi-state DPS and its habitat. Alternative B contains multiple standards and guidelines that are designed to eliminate or reduce negative impacts from domestic livestock grazing. Due to the large amount of land grazed by livestock within the amendment area, the greatest land-use adjustment that

might bring about passive restoration is to change livestock management (Pyke 2011). Simply removing livestock grazing from Federal lands may not provide desired or expected outcomes such as increases in herbaceous and forb cover or species diversity (Anderson and Holte 1981; Manier and Hobbs 2006; West et al. 1984). Livestock grazing can both positively and negatively affect sage grouse habitat (Beck and Mitchell 2000). Permitted livestock grazing is recognized as a low threat to bi-state sage grouse (Bi-state Action Plan 2012). However, excessive grazing by domestic livestock during the late 1800s and early 1900s, along with severe drought, resulted in long-term effects on sagebrush ecosystems that persist today (Knick et al. 2003). Modifications to grazing management might be considered as prescriptive techniques in conjunction with other ecosystem management options to achieve desired habitat conditions (Pyke 2011).

Standard B-RP-S-01 would ensure that grazing permits and annual operating instructions include terms, conditions, and directions to move rangeland condition toward or to maintain bi-state sage grouse habitat desired conditions. Livestock grazing could be modified by restricting areas open to grazing, changing grazing systems, adjusting seasons of use or class of livestock, and placing additional restrictions on the construction of range improvements. These changes would result in direct effects to livestock grazing.

Table 3-14. Forage utilization standards for bi-state sage grouse habitat

Community Type	Percent Utilization of Key Species	Terms and Conditions
Mountain Big Sagebrush	<45% herbaceous species; <35% shrub species	Livestock removed in 3–5 days of reaching utilization level
Wyoming and Basin Big Sagebrush	<35% herbaceous species; <35% shrub species	Livestock removed in 3–5 days of reaching utilization level
Black Sagebrush	<35% herbaceous species; <35% shrub species	Livestock removed in 3–5 days of reaching utilization level
Riparian and Wet Meadows	<50% herbaceous species; <35% woody species or Average stubble height of at least 4–6 inches (depending on site capability and potential) for herbaceous riparian vegetation	Average stubble height 4–6 inches Livestock removed in 3–5 days of reaching utilization level based on site, or (sequential action) no grazing from May 15–August 30 in brood-rearing habitat

Note: Monitoring would be conducted using accepted protocols (including but not limited to: Burton et al. 2011; USDI BLM 1996; Platts 1990).

Sources: Holechek (1988); Holechek et al. (1998); Burton et al. (2011); USDI BLM (1996); Platts (1990).

Updated utilization standards would be applied to bi-state DPS habitat within grazing allotments. Standard B-RU-S-01 would require managing grazing to maintain residual cover of herbaceous vegetation within 3 miles of active leks during the breeding and nesting season (March 1 to June 30). Standard B-RU-S-02 would apply the utilization standards in Table 3-14 to bi-state DPS habitat within grazing allotments in addition to standard B-RU-S-01.

The rangelands of the intermountain west have had a several thousand year period in which large hoofed grazers were rare (Connelly et al. 2004; Reisner 2010). As a result, many of the native bunchgrasses are highly sensitive to grazing (Adler et al. 2004; Mack and Thompson 1982). Most plants can withstand some grazing and still remain in productive condition. The amount of grazing that can be tolerated depends on the plant species as well as environmental conditions. Grazing can occur frequently and during critical growth periods if sufficient leaf area remains to sustain a high level of photosynthesis (Holechek et al. 2011).

In the arid areas of the intermountain region, current science shows that utilization levels between 25 and 40 percent will maintain forage productivity (Holechek et al. 2011). Utilization levels for sagebrush communities receiving 8 to 12 inches of annual precipitation are recommended to be set between 30 and 40 percent for key forage species (Holechek 1988). Most Wyoming and basin big sagebrush and black sagebrush communities fall within this precipitation zone. As average annual precipitation increases, utilization can be increased (Holechek et al. 2011). Mountain big sagebrush communities occur at a higher elevation and receive more precipitation than the other sagebrush communities which enable them to withstand a higher utilization level.

Percent use of forage is well related to changes in forage productivity, livestock performance, and financial returns. Decreased forage utilization leads to higher amounts of forage production. Forage production was found to increase by an average of 23 percent when switching from heavy to moderate use levels and 36 percent when switching from heavy to light utilization levels (Holechek et al. 1999). Conservative stocking, as defined by range researchers, involves about 35 percent use of forage and optimizes ranching risk, financial returns, vegetation productivity and livestock productivity (Holechek et al. 2011).

Abundant cover of tall perennial grasses and other residual vegetation cover, in conjunction with big sagebrush, are critical for high nesting success by sage grouse (Gregg et al. 1994; Sveum et al. 1998). Residual ungrazed forage has many other benefits as well. It plays a critical role in soil protection and water infiltration which contributes to increased forage production (Holechek et al. 2011). It also protects plants from extreme temperatures and protects the growing points from insects, small mammals, and pathogens. Heavy use during dormancy reduces forage production almost as much as during active growth (Holechek et al. 2011).

The utilization standards in Table 3-14 are generally more restrictive than what is currently permitted within bi-state DPS habitat. Reducing allowable utilization in bi-state DPS habitat will directly affect livestock grazing management. Livestock management practices may need to change in order to comply with the utilization standards. This could include changes in grazing systems, increased herding of livestock, shortened seasons of use or reductions in permitted livestock numbers. These changes could increase the grazing permittee's operating costs and reduce their permitted AUMs.

Implementation of the residual cover and utilization standards could result in late turn-out and/or early removal of livestock from Federal grazing allotments. When utilization standards are met, operators are required to move their livestock to the next scheduled pasture or allotment or back to the home ranch. Reductions in grazing seasons or livestock numbers on Federal grazing allotments could lead to increased utilization and impacts on private lands.

In late summer, as upland sagebrush habitats dry out, sage grouse regularly use wet meadows and irrigated pastures in search of succulent forbs and insects. Juvenile sage grouse rely heavily on insects and forbs during their first few months of life (Connelly et al. 2004). In the intermountain west, only 2 percent of the landscape is comprised of wet meadows and riparian habitats. However, 80 percent of those habitats are located on private lands, the majority of which were created and sustained through irrigation associated with farming and ranching (Sage Grouse Initiative 2014).

Increased impacts on private lands and variable seasons of use can create uncertainty for livestock producers which could lead to the sale and subdivision of ranches. The greatest benefit to the bi-state sage grouse provided by working ranches is the retention of large, contiguous blocks of native shrublands. Often when ranches are sold, they are converted to uses entirely unsuitable for bi-state DPS habitat such as housing developments (USDI FWS 2013a).

Standards B-RI-S-01, B-RI-S-02, B-RI-S-03, B-RI-S-04, B-RI-S-05, B-RI-S-06, B-RI-S-07, B-RI-S-08, B-RI-S-09, B-LUSU-S-10 and guidelines B-RI-G-01 and B-RI-G-02 apply to range improvements, supplemental feeding locations, and sheep bedding grounds. Range improvements would still be constructed under alternative B; however, their primary purpose would be to maintain or improve bi-state DPS habitat desired conditions. Existing range improvements would be modified or removed to reduce impacts to bi-state DPS and its habitat. Supplemental feeding stations would be located away from leks and riparian areas.

Cumulative Effects. The Forest Service and BLM will continue to analyze livestock grazing allotments under project-level NEPA decisions. Future decisions could involve re-authorizing grazing use on allotments, changing terms and conditions of grazing permits, and closing allotments. The above direct and indirect effects on livestock grazing management practices, including indirect effects on operations off of NFS lands and BLM public lands, could be cumulatively increased for permittees who also operate on NFS lands or BLM public lands that may be affected by other land use planning efforts, such as the greater sage-grouse amendment.

Alternative C

Direct and Indirect Effects. Alternative C would close all grazing allotments containing bi-state DPS habitat. Eighty-seven grazing allotments would be closed to domestic livestock grazing. Permitted AUMs on the allotments would be eliminated. Construction and maintenance of range improvements would cease. Existing range improvements would be removed or modified to eliminate impacts to bi-state sage grouse and its habitat.

Cumulative Effects. The indirect effects described for alternative B that pertain to operations off of NFS lands and BLM public lands could be cumulatively increased for permittees who also operate on NFS lands or BLM public lands that may be affected by other land use planning efforts, such as the greater sage-grouse amendment.

Compliance with Forest Plan/Laws/Regulations

All three alternatives comply with the various laws pertaining to BLM and Forest Service livestock management: the Toiyabe LRMP, the Carson City RMP, the Battle Mountain RMP, and BLM directives and policies.

Effects on the Management of Weeds Program on Federal Lands

Summary

Alternative B will apply standards and guidelines designed to enhance noxious and invasive weed control efforts. These standards and guidelines would reduce the likelihood of introducing or spreading noxious and invasive weed species as well as reducing the amount and density of current infestations. Alternative B will also promote healthy vegetation communities, reduce disturbance and reduce the risk of wildfire within bi-state DPS habitat which will further reduce opportunities for noxious and invasive weed establishment and spread.

Alternative C will apply standards and guidelines designed to enhance noxious and invasive weed control efforts. These standards and guidelines would reduce the likelihood of introducing or spreading noxious and invasive weed species as well as reducing the amount and density of current infestations. Alternative C will also promote healthy vegetation communities, reduce disturbance and reduce the risk of wildfire within bi-state DPS habitat which will further reduce opportunities for noxious and invasive weed establishment and spread. Alternative C emphasizes control of invasive annual grass species as well improving resistance of bi-state DPS habitat to annual grass invasion.

Affected Environment

Non-native noxious and invasive weeds are recognized as a primary threat to the long-term longevity of the bi-state sage grouse (USDI FWS 2013a). Invasive weed species have a wide variety of effects on native ecosystem structure and function. They reduce plant species diversity by displacing native vegetation, which reduces the amount of food and cover available for sage grouse and other wildlife. This can severely alter habitat where it is no longer suitable for sage grouse. Invasive plants can alter nutrient cycling, soil moisture regimes, and soil properties leading to enhanced soil erosion that further inhibits the reestablishment of native vegetation. Some species, such as the annual grasses cheatgrass and medusahead, modify the fuel characteristics of sites resulting in increased fire frequency that convert sagebrush ecosystems to annual-grass-dominated ecosystems. Invasive plants have economic impacts as well from reducing productivity of agricultural lands, increasing fire suppression and rehabilitation costs, and limiting wildlife associated recreation opportunities (Duncan et al. 2004).

The rangelands of the intermountain west have had a several thousand year period in which large hoofed grazers were rare (Connelly et al. 2004; Reisner 2010). As a result, sagebrush ecosystems are particularly sensitive to surface disturbances (Belnap et al. 2001) and many of the native bunchgrasses are highly sensitive to grazing (Adler et al. 2004; Mack and Thompson 1982). Excessive grazing by domestic livestock during the late 1800s and early 1900s, along with severe drought and the introduction of exotic weed species, resulted in long-term effects on the vegetation and soil characteristics of sagebrush ecosystems that persist today (Knick et al. 2003). Repeated overgrazing by livestock leads to significant reductions in perennial grass cover and biological soil crusts in the interspaces between sagebrush plants (Reisner 2010). The resulting gaps between native bunchgrasses and biological soil crusts are readily invaded by noxious and invasive weed species (Reisner et al. 2013).

Impacts from recreational vehicle use, mining, road building and maintenance, vegetation treatments and fire all contribute to the introduction of new populations or the spread of existing populations of noxious and invasive weeds (Brooks and Pyke 2001; Gelbard and Belnap 2003).

There are approximately 1,800 acres of noxious weeds within the amendment area on BLM- and Forest Service-managed lands. Table 3-15 shows the noxious weed species currently found within the amendment area. Noxious weeds are usually found in places where the native plant community has been degraded and where there is sufficient soil moisture; although, noxious weeds can invade healthy ecosystems. The infestations within the amendment area tend to be located in riparian areas, burned areas, and along roadsides.

The current extent of cheatgrass is not mapped within the amendment area. However, it is found in all bi-state DPS PMUs (Bi-State Action Plan 2012). Recent analysis in the Great Basin has determined that 65 percent of the region is at a moderate or high risk of cheatgrass invasion (Meinke et al. 2009).

The BLM and Forest Service utilize an integrated pest management approach to prevent the introduction and establishment of noxious weeds and to control existing infestations. This includes education and preventative measures, as well as physical, biological, chemical, and cultural treatments. Current policy allows the BLM and Forest Service to treat other invasive species; however, there is no requirement to do so as with state-listed noxious weeds.

Table 3-15. Noxious weeds within the amendment area

Common Name	Scientific Name
Russian knapweed	<i>Acroptilon repens</i>
Hoary cress	<i>Cardaria draba</i>
Musk thistle	<i>Carduus nutans</i>
Spotted knapweed	<i>Centaurea biebersteinii</i>
Diffuse knapweed	<i>Centaurea diffusa</i>
Yellow starthistle	<i>Centaurea solstitialis</i>
Canada thistle	<i>Cirsium arvense</i>
Poison-hemlock	<i>Conium maculatum</i>
Common St. Johnswort	<i>Hypericum perforatum</i>
Perennial pepperweed/Tall whitetop	<i>Lepidium latifolium</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Scotch thistle	<i>Onopordum acanthium</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Saltcedar	<i>Tamarix</i> spp.

Environmental Effects

Management Indicators

Table 3-16 shows the indicators used in this analysis.

Table 3-16. Comparison of indicators by alternatives

Indicator	Alternative A	Alternative B	Alternative C
Change in the likelihood for noxious weed or invasive annual grass introduction or spread	No change	Reduced likelihood	Reduced likelihood
Change in the amount or density of noxious weeds or invasive annual grasses	No change	Decrease	Decrease

Alternative A – No Action

Direct and Indirect Effects. There are no direct or indirect effects if alternative A is selected. Management of noxious and invasive weeds will continue as described in the “Affected Environment” section.

Cumulative Effects. The spatial boundary for analyzing the cumulative effects to noxious and invasive weed management is the entire amendment area, because noxious and invasive weed populations are found throughout the amendment area. Because there are no direct or indirect effects, there are no cumulative effects if alternative A is selected.

Alternative B – Modified Proposed Action

Direct and Indirect Effects. Alternative B contains several standards and guidelines that will directly affect noxious and invasive weed management.

Guideline B-Weed-G-01 allows the use of domestic livestock to control undesirable vegetation in order to achieve bi-state DPS habitat desired conditions. Recent research suggests that cattle grazing, even at the highest intensities, does not reduce cheatgrass cover. Increasing intensity of cattle grazing results in a decrease in the remnant native perennial grasses and biological soil crusts which promotes an increase in

the magnitude of cheatgrass dominance (Reisner 2010; Reisner et al. 2013). While cattle grazing may not be effective for cheatgrass control, many species of noxious and invasive weeds can be controlled with specifically designed grazing strategies using cattle, sheep, and goats (Davison et al. 2005; Olson 1999).

Standard B-Weed-S-01 would limit the opportunities for weed establishment or expansion following soil disturbances or seeding. This standard would ensure that no soil-disturbing authorized uses would be allowed on disturbed sites until they have recovered.

Standard B-Weed-S-03 would require agency personnel, contractors, and permit holders working in areas with known weed infestations to clean vehicles of dirt, mud, and visible plant debris before entering a different area to reduce the spread of noxious weeds. This standard would reduce the likelihood of introducing or spreading noxious and invasive weed species.

Standard B-Weed-S-02 prohibits the use of herbicides during the critical disturbance period. Herbicide use would only be allowed in bi-state DPS habitat if other integrated pest management approaches are inadequate or infeasible. Limiting the timing of herbicide application could hinder noxious and invasive weed management efforts for some species.

The five goals of alternative B and the associated objectives, standards, and guidelines are intended to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS.

Goal 1 focuses on managing bi-state DPS habitat and movement corridors to bring vegetation communities to their ecological site potential by restoring degraded habitat with management changes or restoration activities. Goal 2 applies standards and guidelines to bi-state DPS habitat that will eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions. Goal 3 emphasizes using fuels treatment projects to protect bi-state DPS habitat from wildfire. Goals 4a, 4b, and 4c seek to limit the size and extent of degraded bi-state DPS habitat, reduce the risk of high severity wildfires, and increase bi-state DPS habitat resilience to disturbance and resistance to annual grass invasion. Goal 5 would increase areas with dense sagebrush cover through restoration strategies.

Promoting healthy vegetation communities, reducing disturbance, and reducing the risk of wildfire will result in indirect effects to noxious and invasive weed management. Healthy bi-state DPS habitat is more resistant to weed invasion. Reduced disturbances will result in less opportunity for noxious and invasive weeds to become established. Reduced risk of wildfire will also reduce the risk of conversion of bi-state DPS habitat to communities dominated by exotic, annual grass and weed species.

Alternative B allows for disturbances to occur within bi-state DPS habitat from various land uses and projects. Livestock grazing, recreational vehicle use, mining, fuels reduction treatments, pinyon-juniper removal projects, and other habitat restoration projects would occur on the landscape. These types of projects and uses have a disturbance footprint that could lead to new noxious or invasive weed infestations within bi-state DPS habitat. The standards and guidelines in alternative B will reduce the risk of inadvertently introducing or spreading noxious and invasive species from these activities.

Cumulative Effects. Because the Forest Service and BLM will continue to treat noxious and invasive weed infestations using integrated pest management approaches in areas outside of bi-state DPS habitat, the cumulative effects are the same as for the direct and indirect effects of alternative B.

Alternative C

Direct and Indirect Effects. The five goals of alternative C and the associated objectives, standards, and guidelines are intended to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS.

Goal 1 focuses on managing bi-state DPS habitat and movement corridors to bring vegetation communities to their ecological site potential by restoring degraded habitat with management changes or restoration activities. Goal 2 applies standards and guidelines to bi-state DPS habitat that will eliminate or reduce negative impacts and increase positive impacts from discretionary and nondiscretionary actions. Goal 3 emphasizes using fuels treatment projects to protect bi-state DPS habitat from wildfire. Goals 4a, 4b, and 4c seek to limit the size and extent of degraded bi-state DPS habitat, reduce the risk of high severity wildfires, and increase bi-state DPS habitat resilience to disturbance and resistance to annual grass invasion. Goal 5 would increase areas with dense sagebrush cover through restoration strategies.

Standards B-Weed-S-01, B-Weed-S-02, B-Weed-S-03 and guideline B-Weed-G-01 from alternative B would also be applied by alternative C and have the same effects as discussed under the alternative B section of this report. In addition, alternative C would apply additional standards and guidelines.

Standard C-Weed-S-01 requires that fires be suppressed in vegetation communities with low to moderate resilience and resistance to prevent an invasive annual grass-fire cycle.

Standard C-Weed-S-02 requires that proposed restoration treatments take into account the annual grass resistance of the site and the resilience of the native vegetation to respond to disturbance.

Standard C-Weed-S-03 requires that annual invasive grasses be controlled or suppressed.

Guideline C-Weed-G-01 emphasizes treating new weed or annual grass infestations for activities that are likely to cause or promote the introduction or infestation of invasive plants.

These three additional standards and one additional guideline will help to limit the spread and establishment of invasive annual grasses.

Alternative C allows for disturbances to occur within bi-state DPS habitat from various land uses and projects. Recreational vehicle use, mining, fuels reduction treatments, pinyon-juniper removal projects, and other habitat restoration projects would occur on the landscape. These types of projects and uses have a disturbance footprint that could lead to new noxious or invasive weed infestations within bi-state DPS habitat. The standards and guidelines in alternative C will reduce the risk of inadvertently introducing or spreading noxious and invasive species from these activities. Alternative C would close livestock grazing allotments containing bi-state DPS habitat which would help to limit weed spread.

Promoting healthy vegetation communities, reducing disturbance, and reducing the risk of wildfire will result in indirect effects to noxious and invasive weed management. Healthy bi-state DPS habitat is more resistant to weed invasion. Reduced disturbances will result in less opportunity for noxious and invasive weeds to become established. Reduced risk of wildfire will also reduce the risk of conversion of bi-state DPS habitat to communities dominated by exotic, annual grass and weed species.

Cumulative Effects. As those described for alternative B, the cumulative effects for alternative C are the same as the direct and indirect effects for alternative B.

Effects on the Management of Wild Horses and Burros on Federal Lands

Introduction

BLM herd management areas (HMAs) and Forest Service wild horse and burro territories (WHBTs) make up about 25 percent of the amendment area. Wild, free-roaming horses and burros are currently managed to ensure the health of the public lands so that the species depending on them, including the Nation's wild horses and burros, can thrive.

Summary

Implementation of alternative B could impact six HMAs/WHBTs within the amendment area. Revisions to management plans and appropriate management levels may be required to meet desired conditions for bi-state sage grouse habitat. Managing for the bi-state DPS habitat desired conditions by adjusting wild horse and burro populations, reducing domestic livestock utilization, and restoring sagebrush habitats should improve forage production and availability over the long term, which would have a beneficial impact on wild horse and burro populations.

Implementation of alternative C could impact six HMAs/WHBTs within the amendment area. Alternative C would eliminate competition between domestic livestock and wild horses and burros. Revisions to management plans and appropriate management levels may be required to meet desired conditions for bi-state sage grouse habitat. Managing for the bi-state DPS habitat desired conditions by adjusting wild horse and burro populations, eliminating domestic livestock grazing, and restoring sagebrush habitats should improve forage production and availability over the long term which would have a beneficial impact on wild horse and burro populations.

Affected Environment

Following passage of the Wild Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195, as amended by Congress in 1976, 1978, 1996, and 2004; [the Act]), BLM herd areas and HMAs and Forest Service WHBTs were identified. Herd areas and territories are locations where wild horse and burro populations were found when the Act was passed. HMAs and WHBTs are areas within these identified herd areas, in their entirety or part, where it was established and affirmed through land use plans that sufficient forage, water, cover, and space existed to support the long-term management of healthy wild horse or burro populations.

The BLM program emphasis is beyond just establishing an appropriate management level and conducting wild horse gathers to include a variety of management actions that further facilitate the achievement and maintenance of viable and stable wild horse populations and a "thriving natural ecological balance." Management actions resulting from shifting program emphasis include increasing fertility control, adjusting sex ratio, and collecting genetic baseline data to support genetic health assessments. The Forest Service has been a cooperating agency to these additional management efforts.

Wild horses are a long-lived species with survival rates estimated between 80 and 97 percent and may be the determinant of wild horse population increases (Wolfe 1980; Eberhardt et al. 1982; Garrott and Taylor 1990). Wild horse numbers appear to be limited principally by water availability and winter forage. Predation and disease have not substantially regulated wild horse population levels within or outside the planning area. Throughout the HMAs few predators exist to control wild horse populations. Some mountain lion predation occurs, but does not appear to be substantial. Coyotes are not prone to prey on wild horses unless they are young or extremely weak. Being a non-self-regulating species, there would be a steady increase in wild horse numbers for the foreseeable future, which would continue to exceed the

carrying capacity of the range. Animal movement and distribution are controlled by fencing and the distribution of watering sources.

There are 859,046 acres of wild horse and burro herd areas, HMAs, and WHBTs within the amendment area. There are 10 herd areas and territories within the amendment area. These areas overlap 108,617 acres of habitat. These identified herd areas were the basis for current identified HMAs as established through land use plans.

The BLM manages eight HMAs and the Forest Service manages two WHBTs in the amendment area. Five HMAs and one WHBT overlap bi-state DPS habitat. Wild horse and burro populations in HMAs and WHBTs are managed within appropriate management levels and corresponding forage allocations (animal unit months, or AUMs). The appropriate management level is defined as the maximum number of wild horses that can be sustained within a designated HMA or WHBT that achieves and maintains a thriving natural ecological balance. The appropriate management level for each HMA and WHBT, in most cases, is expressed as a range with an upper and lower limit. The AUM allocation for wild horses and burros in HMAs and WHBTs is based on the upper limit of the appropriate management level range. Initial appropriate management levels and the boundaries of each HMA and WHBT were established through previous land use plans to ensure that public land resources, including wild horse habitat, are maintained in satisfactory, healthy condition and that unacceptable impacts on these resources are minimized. The appropriate management level ranges are based on best available science and rangeland monitoring studies. HMA and WHBT acreages by habitat type along with current appropriate management levels are shown in Table 3-17.

Table 3-17. BLM herd management areas and Forest Service territories within the amendment area

Herd Management Area or Wild Horse and Burro Territory	BLM District Office or Forest Service Ranger District	Total Acres in Amendment Area	Total Acres within Bi-state Sage Grouse Habitat	Appropriate Management Level	Estimated Population
BLM					
Fish Lake Valley	Battle Mountain	67,025	24,273	54	197
Garfield Flat	Carson City	12,514	0	83–125	120
Marietta	Carson City	66,045	0	78–104	165
Montezuma Peak	Battle Mountain	31	0	146 h; 10 b	74 h; 100 b
Palmetto	Battle Mountain	116,487	17,856	76	0
Pine Nut Mountains	Carson City	104,306	23,816	119–179	266
Silver Peak	Battle Mountain	242,169	8,102	6 h; 0 b	136 h; 10 b
Wassuk	Carson City	51,743	8,356	109–165	169
Forest Service					
Montgomery Pass	Inyo National Forest	112,599	0	138–230	340
Powell Mountain	Bridgeport	86,126	26,214	29	0

The HMAs, WHBTs, and associated wild horse and burro populations within the plan areas are managed within the established appropriate management levels and management objectives identified within the land use plans, herd management area plan, or territory management plan. The appropriate management levels, objectives, and management actions may be modified in future multiple-use decisions for the grazing allotments contained within an HMA or WHBT. Various factors, including drought conditions, historic grazing, wildfires, and wild horse population growth, may adversely affect habitat and, in some instances, herd health. Wild horses that establish home ranges outside of HMA, WHBT, or herd area boundaries are removed during gathers. Wild horses are removed from private lands at the request of the landowner and after reasonable efforts to keep the animals off private lands have failed.

The estimated population size of wild horses and burros within each HMA/WHBT is based on helicopter inventories, which occur every 2 to 3 years. These population inventory flights provide information pertaining to population numbers, foaling rates, distribution, and herd health. Inventory flights can occur throughout the year. Population estimates within the planning area show a total estimated population of 1,209 horses and burros. Population estimates indicate that the number of horses and burros exceeds the aggregated appropriate management level.

Although determined by population monitoring, it is generally necessary to gather horses and burros on a 3- to 4-year schedule to ensure that numbers remain within the appropriate management level. Unfortunately, this has not been consistently possible because of insufficient funding and holding space; therefore, appropriate management levels are frequently exceeded. Following gathers, some animals are selected for return to the HMA or WHBT; excess horses or burros are placed in the adoption program, made available for sale, or in long-term holding.

The rangelands of the intermountain west have had a several thousand year period in which large hoofed grazers were rare (Connelly et al. 2004; Reisner 2010). As a result, sagebrush ecosystems are particularly sensitive to surface disturbances (Belnap et al. 2001) and many of the native bunchgrasses are highly sensitive to grazing (Adler et al. 2004; Mack and Thompson 1982). Wild horses and burros occupy the landscape year-round with minimal management which often results in long lasting effects on the vegetation and soil characteristics of rangelands (Beever 2003).

These plant community changes can have negative impacts on sage grouse and other sagebrush-obligate wildlife. Wild horse and burro grazing has been shown to limit sagebrush recruitment, reduce sagebrush density, reduce grass abundance and cover, lower plant species diversity, increase dominance of forbs unpalatable to sage grouse and compact surface soil horizons (Beever and Aldridge 2011; Beever and Herrick 2006; Davies et al. 2014). The effects can be especially pronounced during drought conditions (Beever and Aldridge 2011).

Current conditions within the planning area show that wild horse populations continue to grow, often exceeding appropriate management levels. Wild horses will continue to be removed to regain and maintain appropriate management levels and rangeland health.

Environmental Effects

Management Indicators

Table 3-18 shows the indicators used in this analysis.

Table 3-18. Comparison of indicators by alternative

Indicator	Alt A - No Action	Alt B - Modified Proposed Action	Alt C
Changes to HMA/WHBT appropriate management levels	No change	Potential adjustments made to meet bi-state DPS habitat desired conditions. Possible increase in frequency of gathers and population growth suppression treatments.	Potential adjustments made to meet bi-state DPS habitat desired conditions. Possible increase in frequency of gathers and population growth suppression treatments.
Changes in the ability to manage wild horses and burros due to bi-state DPS habitat conservation measures	No change	Increased forage availability due to reduced utilization by domestic livestock. Possible decrease in water distribution. Long-term improvement in rangeland conditions.	Increased forage availability due to no domestic livestock grazing. Possible decrease in water distribution. Long-term improvement in rangeland conditions.

Assumptions

The analysis includes the following assumptions.

While wild horses and burros may be found on lands outside HMAs/WHBTs, these areas have no forage allocated to wild horses and burros and BLM/Forest Service has no authority to manage (except to remove) wild horses and burros outside of HMAs/WHBTs.

Designated HMAs/WHBTs meet the four-season habitat needs and allow for a self-sustaining herd at a designated appropriate management level.

Wild horse and burro gather operation scheduling is a product of a national priority process. Factors affecting gather priorities include determinations of excess horses and overpopulations, wild horse and range condition, annual appropriations, litigation and court orders, emergency situations (i.e., disease, weather, fire, etc.), availability of contractors, adoption market, and long-term holding availability for unadoptable excess horses.

Alternative A – No Action

Direct and Indirect Effects. There are no direct or indirect effects if alternative A is selected. Management of wild horses and burros will continue as described in the “Affected Environment” section.

Cumulative Effects. Because there are no direct or indirect effects and no other management areas for wild horses and burros in the amendment area, there are no cumulative effects if alternative A is selected.

Alternative B – Modified Proposed Action

Direct and Indirect Effects. The following HMAs/WHBTs contain bi-state sage grouse habitat and would be affected by the modified proposed action: Fish Lake Valley, Palmetto, Pine Nut Mountains, Powell Mountain, Silver Peak, and Wassuk.

Under alternative B, standard B-WHB-S-01 requires that appropriate management levels be established or adjusted in order to achieve the bi-state DPS habitat desired conditions. Each HMA/WHBT containing bi-state DPS habitat would be evaluated to determine its impact on bi-state DPS habitat and the appropriate management levels would be adjusted accordingly.

Managing for the bi-state DPS habitat desired conditions could improve forage production and availability over the long term which would have a beneficial impact on wild horse and burro populations.

Modification or elimination of livestock watering facilities could reduce water availability resulting in increased wild horse and burro use at remaining facilities and the potential need for reduction of wild horse and burro numbers within a HMA/WHBT. bi-state DPS habitat restoration projects that remove encroaching pinyon-juniper and treat invasive weed infestations would have a beneficial effect on wild horse and burro populations by improving plant community composition and forage availability.

Cumulative Effects. The Forest Service and BLM will continue establishing and adjusting appropriate management levels through HMA-specific analyses. Gathers will continue to be implemented to remove excess animals and to apply fertility control treatments. Because there are no other management areas for wild horses and burros in the amendment area, the cumulative effects for alternative B are the same as the direct and indirect effects for the alternative.

Alternative C

Direct and Indirect Effects. The following HMAs/WHBTs contain bi-state sage grouse habitat and would be affected by alternative C: Fish Lake Valley, Palmetto, Pine Nut Mountains, Powell Mountain, Silver Peak, and Wassuk.

Under alternative C, standard B-WHB-S-01 requires that appropriate management levels be established or adjusted in order to achieve the bi-state DPS habitat desired conditions. Each HMA/WHBT containing bi-state DPS habitat would be evaluated to determine its impact on bi-state DPS habitat and the appropriate management levels would be adjusted accordingly. Managing for the bi-state DPS habitat desired conditions could improve forage production and availability over the long term which would have a beneficial impact on wild horse and burro populations. bi-state DPS habitat restoration projects that remove encroaching pinyon-juniper and treat invasive weed infestations would have a beneficial effect on wild horse and burro populations by improving plant community composition and forage availability.

Alternative C would eliminate domestic livestock within bi-state DPS habitat. All grazing allotments containing bi-state DPS habitat would be closed and AUMs allocated to domestic livestock would be eliminated. Removal of domestic livestock from bi-state DPS habitat would eliminate competition between wild horses and burros and domestic livestock for forage.

Modification or removal of livestock watering facilities could reduce water availability resulting in increased wild horse and burro use at remaining facilities and the potential need for reduction of wild horse and burro numbers within a HMA/WHBT. Removal of existing fences could hinder wild horse and burro management efforts by removing barriers to horse and burro movement.

Cumulative Effects. The Forest Service and BLM will continue establishing and adjusting appropriate management levels through HMA-specific analyses. Gathers will continue to be implemented to remove excess animals and to apply fertility control treatments. Because there are no other management areas for wild horses and burros in the amendment area, the cumulative effects for alternative C are the same as the direct and indirect effects for the alternative.

Effects on the Management of the Minerals Programs on Federal Lands

Affected Environment

Physiography

Most of the amendment area for this analysis lies within the western portion of the Basin and Range Physiographic Province and lesser amounts of the uplifted Sierra Nevada Province. The Basin and Range Physiographic Province roughly corresponds in proximity to the Great Basin, a contiguous watershed

region between the Sierra Nevada and the Rocky Mountains that has no natural outlet to the sea. Extensional forces started about 17 million years ago (Ma) which created the Great Basin. These forces have resulted in the present-day landscape of alternating mountain ranges and deep, sediment filled basins bounded by steep dipping north-south range front faults which characterize the much of the Great Basin.

Geologic Overview

The oldest rocks in the project area are Precambrian (greater than 540 Ma) schists. Paleozoic (250 to 540 Ma) rocks are present in areas, but Mesozoic (65 to 250 Ma) age rocks comprise the most extensive pre-Tertiary (greater than 65 Ma) outcrops exposed within the Great Basin portion of the project area. Mesozoic rocks in the Great Basin Province consist of Triassic (201 to 250 Ma) and Jurassic (145 to 201 Ma) metasedimentary and metavolcanic rocks and Jurassic and Cretaceous (65 to 145 Ma) granitic rocks. Over much of the project area, these Mesozoic granitic and metamorphic rocks are overlain by an extensive sequence of Cenozoic (younger than 65 Ma) volcanic and interbedded sedimentary rocks. All of these rocks have been exposed to extensive folding and faulting from multiple tectonic events that have affected the region (modified after USDI BLM [2013]). The amendment area is bounded on the west by Mesozoic plutonic rocks of the Sierra Nevada Batholith (California State Map) that have been partially overlain by Cenozoic volcanic rocks.

Zones of crustal weakness are important targets for precious metal exploration because they represent major conduits for the hydrothermal activity associated with ore deposit formation. The local and regional stresses occurring in these zones are also important in providing the mechanical ground preparation required for ore deposit emplacement. As a result, the Walker Lane structural zone is associated with the occurrence of many precious metals deposits that have been discovered within the project area as evidenced by the past establishment of numerous historic mining districts.

Mineral Potential of the Project Area

Mineral potential is described in detail in an extensive report completed for the BLM Carson City District which covers most of the eastern half of the study area. In summary, the report described the mineral potential for geothermal to be high while oil and gas is low. Solid leasable mineral potential is low while saleable minerals are moderate to high depending on the commodity. Locatable minerals have an important role in the past and will continue to have some role in the future with at least moderate potential (USDI BLM 2013). Some commodities such as gold would have a high potential. Mineral potential of the western half of the study area Forest Service lands is much the same as the eastern half due to the similar geology and the basin and range setting. Saleable sand and gravel deposits are much less common on the Forest Service lands due to the steep terrain. However, geothermal and locatable minerals have a high potential as on the BLM-administered lands (California Gold Map, Geothermal Potential Map).

The Forest Service and BLM Minerals Programs

On Federal lands, mineral resources are governed by the General Mining Law of 1872, as amended; those portions of the FLPMA that affect the General Mining Law; Mineral Leasing Acts of 1920, as amended; the Mineral Material Acts of 1947, as amended; the Surface Resources Act of 1955 and The Mining and Minerals Policy Act of 1970. Oil and gas leasing is guided by the Energy Policy Act of 2005. Geothermal leasing is guided by the Geothermal Steam Act of 1970 (30 USC 1004), as amended; by the Energy Policy Act of 2005, and other laws, regulations, orders and policies.

The Forest Service manages oil and gas operations on NFS lands under 36 CFR 228 subpart E. Mineral leasing operations are guided by Forest Service Manual 2820 and mineral prospecting, including geophysical activities is guided by Forest Service Manual 2860. Locatable minerals and surface management regulations fall under 36 CFR 228 subpart A and Forest Service Manual 2810. Mineral

materials are regulated under 36 CFR 228 subpart C and Forest Service Manual 2850 (USDA Forest Service 2012).

Proposed actions on either Forest Service- or BLM-administered lands can be divided into discretionary and nondiscretionary actions. Locatable exploration and mining are nondiscretionary and a reasonable plan of operations must be processed and approved if the mineral estate is open to entry, whereas all other actions are discretionary and the land management agency can choose to permit as proposed, modify, or disallow the proposal.

Discretionary Actions

Mineral Materials/Saleable Minerals: Mineral materials are common variety minerals and are commonly referred to as sand and gravel, aggregates, or mineral materials. Mineral materials consist of common varieties of sand, stone, gravel, cinders, clay, pumice and pumicite as described under the Materials Act of 1947 and the Surface Resources Act of 1955. Saleable minerals on both BLM- and Forest Service-administered lands are made available by sale contracts or free use permits.

Most of the current mineral material products in the study area are small sand and gravel sales, free use permits, and Nevada Department of Transportation (NDOT) gravel material sites (BLM 2013 b). NDOT has about 86 gravel pits for 7,300 acres in the study area of which 11 pits are in habitat for 1,850 acres. The Forest Service currently has no operating saleable sites in the project area and only occasionally uses mineral material sites for road maintenance purposes.

The BLM manages several operating plans for clay, cinder, perlite, and several large competitive gravel-sale pits outside the study area (USDI BLM 2013).

Leasable Minerals: Leasable minerals are subdivided into two categories, solid leasable and fluid leasable. The BLM holds authority over leasable activities. Solid leasables include phosphate, potassium, coal, oil shale, sulfur, sodium, and nitrate. Fluid leasables include oil and gas and geothermal resources. The BLM grants access and rights to leasable resources through a formalized leasing process on both Forest Service- and BLM-administered lands. A leasing analysis and corresponding decision is prepared in order to make determinations as to the availability of certain lands to be leased. A Federal lease grants “the exclusive right to drill for, extract, produce, remove, utilize, sell, and dispose of all the particular resources in the lands described within the lease form” (USDA Forest Service 2012).

Solid Leasable: There are currently no authorized leases for these commodities within the study area. However, there is one exploration application received in 2012 for potassium from alunite on Forest Service lands within the study area. The BLM and Forest Service processed portions of the application, although there has been no response from the applicant since 2012.

Applicants make requests to the BLM on both Forest Service and BLM lands to prospect for solid leasable minerals. If the prospecting area is on Forest Service lands then the BLM requests the Forest Service as a cooperating agency on the environmental analysis to recommend conditions of approval and stipulations to be attached to the lease. BLM may modify the Forest Service’s recommendations or choose not to lease the land depending on the analysis.

Coal, even though it is a solid leasable commodity, is leased under specific guidance for coal only. If the Forest Service decides that the area is not open to leasing then the BLM is not allowed to lease the area.

Fluid Leasable:

Oil and Gas. The BLM has completed a leasing decision for oil and gas for the BLM lands in the study area, whereas the Forest Service lands have no leasing decision. There are no authorized oil and

gas leases in the study area and there is low potential for discoveries (USDI BLM 2013). Therefore, there is also no reasonable foreseeable development scenario for the study area.

Geothermal. Geothermal energy has been the bulk of the leasable exploration and development in the study area. Leasing decisions have been made on both the BLM lands (USDI BLM 2008) and the Bridgeport District portion of the Forest Service lands (USDA Forest Service 2012). Most of the leases have been offered competitively for electrical generation that will then be transported by power lines to municipalities in Nevada and California if ever developed. There are approximately 143,300 acres of geothermal leases within the study area. There are currently three geothermal leases inside the habitat consisting of approximately 7,614 acres. This equates to about 5 percent of the current leased acres are within the habitat.

There are no existing power plants in the modified study area, although within a short distance to the north and east of the study area there are several power plants. The State of Nevada contains 563 leases for 1,187,190 acres and 26 producing leases for geothermal electrical energy production in 2012. There are also four geothermal projects on BLM lands in the study area: Alum, Clayton Valley, Hawthorne, and Silver Peak (Johnson 2012) (Geothermal maps). Important geothermal resource areas on Forest Service lands include North and South Aurora and Wilson Hot Springs.

Reasonable Foreseeable Development Scenario

Reasonable foreseeable development scenarios (RFDs) have been created for the BLM lands (USDI BLM 2006, 2008, 2013) and for the Bridgeport District of the Forest Service lands (USDI BLM 2008; USDA Forest Service 2012a, 2012b).

Previous RFDs in the BLM (2008) and Forest Service (2012a and 2012b) have likely overestimated the production of electricity by 2015. The Carson City District BLM Mineral Potential Report (USDI BLM 2013) completed in 2013 is the most recent RFD and is 1.8 million acres larger than the study area. Therefore, the RFD appropriate for this study area was reduced to three 15 megawatt power plants. The Carson City BLM RFD is largely reiterated here for convenience. This RFD envisions that over the next 20 years, exploration drilling would occur on all geothermal leases, some of which lead to more detailed exploration drilling, and a few of which lead to the discovery of geothermal resources capable of developing three 15 megawatt geothermal power plants for a total of 45 megawatts. The 15 megawatt power plant is used as a typical size to estimate the amount of disturbance that could be involved for the RFD. These calculations are meant to be used as an indicator of the impacts involved, not as a cap or bound on the size of any geothermal power plant development. The discussion below looks at the potential surface disturbances from this scenario, and then the other potential environmental impacts from development of the resources.

Surface Disturbance

Exploration: During the exploration stage, surface disturbance is minimal with few adverse impacts until the decision is made to drill one or more exploration wells. An exploration drilling impact evaluation is shown in Table 3-19, which lists the maximum degree of anticipated surface disturbance expected during this phase.

Table 3-19. Geothermal exploration drilling disturbance

Activity	Acres of Disturbance	Unit per Lease	Total Acres Disturbed per Lease	Total Acres Disturbed with Two Leases Explored per Year
Exploration roads	1 acre/mile	3 0.5-mile roads	1.5	3
Shallow temperature gradient or exploration flow test well (several 100- to 1,000-feet deep)	1 acre/drill site	3 drill sites	3.0	6
Total			4.5	9

Assuming that as many as three temperature gradient or exploration flow test wells would be drilled on each lease, this would disturb as much as 3 acres (1 acre per drill site). Three new access roads, each 0.5 mile in length, would disturb an additional 1.5 acres. Therefore, the total disturbance per lease is approximately 4.5 acres (Table 3-19). Exploration drilling surface impacts are transitory in that unsuccessful exploration programs are abandoned and the surface impacts are reclaimed usually within a 2-year period. Components from successful exploration programs can be used through the development process, frequently using the existing surface disturbances for some of the development activities. There may be numerous leases on which exploration drilling takes place; however, it is unlikely that they would not all be drilled at the same time. If we assume that over the next 20 years 40 geothermal leases are drilled, a total of 120 exploration holes would be drilled. If we assume that these holes would be drilled evenly over the entire 20-year period, six holes would be drilled per year. If we further assume that unsuccessful exploration holes are reclaimed within a 2-year period, then there would never be more than 12 drill pads disturbed at any one time. Table 3-19 summarizes anticipated individual and cumulative impacts for the exploration drilling.

Development: The following describes the construction activities required to develop five 15 to 24 megawatt electrical power generating plants, associated wells, pipelines, roads, and electrical transmission lines. The number of wells includes those used for production, standby, and reinjection. Since development is likely to occur in about 5 megawatt increments over a period of several years, the degree of surface disturbance at any given time is less than that presented in Table 3-20. Mitigation and enhancement would have occurred in some portions of the lease before additional portions of the lease are developed.

Table 3-20. Surface disturbance from construction of a geothermal power facility

Facility or Feature	Facilities or Features/Plant	Disturbed Acres per Feature or Facility	Disturbed Acres for Overall Power Plant Infrastructure	Total Disturbed Acres for 5 Power Plant Facilities
Power plant	1	30	30	150
Wells	6	5	30	150
Cooling pond	1	5	5	25
Pipelines	3	5	15	75
Access road (spurs)	3	7	21	105
Mainline road	1	10	10	50
Transmission line	1	10	10	50
Total			121	605

Schedule: The various time frames for a typical geothermal project are estimated as follows:

Exploration: 1 to 5 years

Development: 2 to 10 years

Production: 10 to 30 years (depending on construction time)

Up to six production or injection wells could be drilled on each lease. Each well pad would disturb approximately 5 acres, and a mainline road would disturb approximately 10 acres. Each of three pipelines would disturb approximately 5 acres and each of five access roads would disturb approximately 7 acres. A power plant would occupy approximately 30 acres, a disposal pond would disturb approximately 5 acres, and a 25-mile transmission line would disturb approximately 10 acres. Total surface disturbance for each plant for this phase of operation would total approximately 121 acres (Table 3-20). Again, not all power plants would be constructed at the same time, and construction would likely be staged in 5 megawatt increments. Until actual geothermal exploration and development begin, it is difficult to quantify the resource potential and possible future intensified production measures necessary to develop the resources (USDI BLM 2013).

Non-discretionary Actions

Locatable. Locatable mineral commodities produced in the project area include gold, silver, copper, iron, tungsten, silica, lead, and zinc (USDI BLM 2012b). Nevada is a major producer of precious metals and is currently ranked as the third or fourth largest gold producing region in the world in terms of its annual production. In 2010 Nevada produced 5.3 million ounces of gold, by far out-producing any other state, and it also produced 7.3 million ounces of silver and over 127 million pounds of copper (Johnson 2012). Past exploration and production of the following commodities have also occurred in or near the study area: antimony, arsenic, beryllium, graphite, magnesium, manganese, mercury, molybdenum, nickel, cobalt, thorium, rare earth elements, titanium, uranium, vanadium, barite, borates, limestone, diatomite, fluorspar, gypsum, kyanite/aluminous refractories, perlite, phyrophyllite, and turquoise (USDI BLM 2013).

Three BLM active plans of operation for precious metals exploration fall within the study area of the Carson City District. The project names are Candelaria (600 acres), Buckskin Mine (18 acres), and Bovie Lew (10 acres). One copper plan of operations is also partly in the planning area called the MacArthur Pit (43 acres) (USDI BLM 2013).

The Candelaria Mine historically produced 68 million ounces of silver and has been reclaimed since 1998. Silver Standard is actively exploring this site (Silver Standard 2014). At the Buckskin Mine 199,000 metric tons were shipped for processing in 2008 (Infomine 2014). The Bovie Lew Mine was a historic placer mine (findthedata.org 2014).

The Battle Mountain District also has three mines within the study area including the Mineral Ridge Mine, Silver Peak Lithium Mine, and Basalt Diatomite Mine. The Mineral Ridge Gold Mine is currently an open-pit heap leach facility located in the southern portion of the study area and would produce 30,000 ounces of gold/year for the next 3 years (Scorpio Gold 2014). In 2011 the Mineral Ridge Mine had 46 employees and produced 13,951 ounces of gold and 7,907 ounces of silver (NBMG 2012).

The Silver Peak Lithium Mine on BLM and private lands produces up to 6,000 tons per year of lithium carbonate equivalent from brines (Nevada Division of Environmental Protection 2012). About one-third of the project falls within the study area. Silver Peak lies near a dry lake bed that is rich in lithium and other minerals and is currently the only operating source of lithium in the United States. The mine is being expanded to double the capacity of its lithium carbonate production. The project is funded in part

by a \$28.4 million grant from the U.S. Department of Energy to expand and upgrade the production of lithium materials for advanced transportation batteries (Wikipedia 2014).

One diatomite mine is in the study area called the Basalt Mine and operated by Grefco Minerals Inc., (Visher and Conyer 2012).

Twenty-five plans of operation are active on the Forest Service in Nevada (USDA Forest Service 2012) and five in California. The Borealis Mine located on Forest Service administered lands restarted gold production in 2012 from reworking previous heap leach ore. Gold production in the first quarter of 2013 was approximately 3,300 ounces (Gryphon 2013). The Esmeralda Mine is a historic gold producer from underground and open pits. Currently only the mill is processing ores from other parts of the state and no mining is taking place on site. The Pine Grove Project is an advanced stage gold resource largely on private land. The company plans to place the future mine facilities, heap leach and waste rock on Forest Service administered lands (*personal communication*, Bridgeport District Geologist). Pine Grove has a measured and indicated resource of 203,900 ounces of gold (Lincoln Gold webpage). The Forest Service is processing a proposal to drill condemnation holes, monitor wells, and soil tests at this site. The Lucky Boy Silica mine is producing silica from a unique clean quartz site for Hardie Board used to make house siding and backer board. The mine is currently on private land and abuts Forest Service administered land.

The Forest Service is also actively processing a plan of operations for the specialty clay mine within habitat that could be used as a fertilizer additive; cattle feed supplement, and other uses.

Active mining claims in the project area numbered about 17,000. Each claim is a maximum of about 20 acres. So the maximum area held under active locatable mining claims is approximately 340,000 acres or 530 square miles.

Environmental Consequences

Methodology

The proposed action limitations and mitigations impacts on exploration, development, and mining or geothermal energy production will be analyzed in part by comparing the number of minerals projects, mining claims, and leases, to the number of those within the study area. This will help to indicate the intensity of the impact. The types of impacts the proposed action will have on the minerals program will also be examined by explaining the usual types of limitations and mitigations that may be applied. This discussion will help identify the context and magnitude.

Incomplete and Unavailable Information

There is generally adequate information available on geothermal drilling projects, active mines, and other minerals projects that may impact this analysis. There is little information on how much gravel is removed annually from the gravel pits.

Spatial and Temporal Context for Effects Analysis

The effects analysis and cumulative impacts are discussed for the area within the study area boundary. The no-action alternative will describe the current condition of the minerals activities which include current exploration, development, and mining or geothermal energy production in the study area. The proposed action will be analyzed by evaluating the implementing objectives, guidelines, and standards on the minerals projects and potential future impacts on the minerals program.

Past, Present, and Foreseeable Activities Relevant to Cumulative Effects Analysis

Past Actions: Vein silver and gold deposits were the most important discoveries in the 1850s to the early 1900s as they accounted for almost all the precious metal production. In the early 1970s, when the price of gold was allowed to react to market demand, the price fluctuated significantly and investors began to encourage expansion of gold exploration and mining again in Nevada. Since the early 1900s the emphasis of exploration shifted to finding and developing large, low-grade deposits, which became economical using cyanide heap leach methods for gold and silver recovery. Exploitation of these large low grade precious metal deposits peaked in the study area in the mid-1990s (USDI BLM 2013b).

In the study area, nonmetallic minerals activity began in the early 1860s with the exploitation of salt deposits from playa lakes at various locations in Churchill and Mineral counties (USDI BLM 2013b). Sand and gravel pits have been in existence for some time as there are abundant deposits near particular elevations largely on BLM-administered lands associated with ancient lake deposits. No past actions are known that limit the availability of mineral resources.

Present Actions: Nonmetallic (industrial) salable minerals produced in the study area and surrounding area include salt, borates, gypsum, fluorite, clay, zeolite, limestone, and diatomite (USDI BLM 2013b). Most of the saleable products are from numerous small pits excavating sand and gravel for road maintenance and construction. There are no leases for oil and gas activity or solid leasable minerals in the study area.

There are various exploration notices and plans of operation for locatable minerals in the study area. Several small operating mines include the Basalt (diatomite) Mine, Silver Peak Lithium Mine on BLM lands and the Borealis Gold Mine, and Esmeralda Mine on Forest Service lands.

Active geothermal projects include the Aurora and Wilson Hot Springs on Forest Service lands and the Silver Peak, Alum and Clayton Valley projects on BLM lands. The Humboldt-Toiyabe National Forest Geothermal Leasing EIS was completed in 2012 and the Forest Service is processing some leasing requests for the BLM to consider leasing.

Reasonably Foreseeable Future Actions: The Nevada Division of Environmental Protection (NDEP) has decided in June 2013 to grant surface disturbance for a reclamation permit consisting of 362.7 acres of private land and 4.9 acres of public land for the Pumpkin Hollow Copper Project near Yerington, Nevada (Nevada Division of Environmental Protection 2013).

Also, the Senate Committee on Energy and Natural Resources passed the Lyon County Economic Development and Conservation Act (S. 159 or "Land Bill") on June 18, 2013. This bill was introduced on January 28, 2013, and would in summary:

The Bill directs the Secretary of the Interior to convey to the city of Yerington, Nevada, identified Federal land in Lyon and Mineral counties. Designates identified Federal land in Nevada managed by the Forest Service, to be known as the Wovoka Wilderness, as wilderness and as a component of the National Wilderness Preservation System and would withdraw the mineral estate from certain surrounding NFS lands (Heller and Reid 2013).

The Land Bill would convey approximately 10,400 acres of land to the City of Yerington, placing the entire Pumpkin Hollow Project under local and Nevada State oversight. Combined with Nevada Copper's 1,500 acres of private land, the bill would provide approximately 11,900 acres total for mine development; power, water and road infrastructure that in turn would provide the City with lands for ancillary commercial and industrial development (Bonifacio 2013).

Preliminary feasibility studies of both open pit and underground mining for Pumpkin Hollow have been prepared and indicate a current mineable measured and indicated reserve of 27.6 million tons grading 1.49 percent copper with significant amounts of gold and silver (Bryan et al. 2012).

The Forest Service is processing a plan of operations at the Pine Grove Project that would serve as monitor wells, condemnation holes, and soil test holes in preparation for submitting a mine plan to the NDEP and Forest Service. The pits would be hosted on private land while much of the heap-leach facilities and waste rock repositories would likely be placed on Forest Service-administered lands. The gold ore has a measured and indicated resource of 203,900 ounces (Lincoln gold webpage 2014).

Alternative A – No Action

Direct Effects. There are no direct effects to mineral activities under the no-action alternative. Management of mineral resources would continue under the current Forest Plan and RMPs.

Indirect Effects. Under the no-action alternative, mineral activities would proceed much as they are currently. The BLM would continue to use the Instruction Memorandum NV-2013-009 for Bi-State Sage Grouse for Minerals Activities (USDI BLM 2012c) until a plan amendment can be completed. The Forest Service would put more attention on the environmental analysis of sage grouse for each proposed action since the USFWS will make a decision on the proposed listing of the bird and its critical habitat in the near future. The Forest Service would not have the goals, objectives, guidelines, and standards to direct the future environmental analysis.

However, there are numerous best management practices (BMPs) and environmental protection measures that are in every mineral authorization to protect sage grouse and their habitat such as noxious weed mitigation, re-vegetation requirements, re-contouring, season restrictions, and others.

Fluid Minerals–Geothermal. Discretionary actions on BLM land for proposed actions and past authorized actions operators would be asked to minimize or eliminate impacts to bi-state DPS or the habitat. If analysis indicates more than a minor impact to bi-state DPS then the BLM determines, in coordination with the respective state wildlife agency, that the action and mitigation measures would cumulatively maintain or enhance bi-state DPS habitat, the proposed action authorization decision must be forwarded to the bi-state DPS technical working team for their review. If this group is unable to agree on the appropriate mitigation for the proposed authorization, then the proposed decision must be forwarded to the Executive Oversight Committee (EOC), when appropriate, for its review. If the EOC is unable to agree on the appropriate mitigation for the proposed authorization, the EOC will coordinate with and brief the BLM State Director for a final decision in absence of consensus. This process will go on until a land use plan amendment is completed (USDI BLM 2012c).

In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (USDI BLM 2012c).

For geothermal proposals within the Bridgeport District of the Forest Service would use the direction in the Humboldt-Toiyabe Geothermal Leasing EIS and Decision (USDA Forest Service 2012) or the Aurora Geothermal EA Supplement and Decision (USDA Forest Service 2012 b) depending on location to guide leasing stipulations, conditions of approval, and final analysis.

Fluid Minerals–Oil & Gas. The BLM's authority for approving oil and gas exploration is listed in 43 CFR 3151. The BLM's approval of oil and gas activities is subject to conditions to prevent undue or unnecessary degradation of public lands and must be consistent with the corresponding RMP and the

districtwide environmental assessment for oil and gas leasing. The Forest Service has not completed an oil and gas leasing decision for any part of the study area. If a leasing decision was completed by the Forest Service then the BLM could offer areas open to leasing in a competitive bid. Currently there are no authorized oil and gas leases in the study area.

Solid Leasable Minerals. Coal is treated as a leasable mineral whether it is on public domain or acquired lands, and all coal leases are sold by competitive, sealed bid. Royalties must be paid on all producing leases. The regulations governing coal management are found in the 43 CFR 3400.

The leasable solid minerals other than coal are generally minerals that are found in bedded deposits, which means that they lie in seams or beds which have lateral extent. The main types of leasable minerals are: chlorides, sulfates, carbonates, borates, silicates, and nitrates of potassium (potash) or sodium and related products; sulfur; phosphate and its associated and related minerals; asphalt; and gilsonite. These minerals are leasable on both public domain and acquired lands. If deposits are known to exist and to be economically workable, leases are sold competitively. If deposits are not known, a prospecting permit can be obtained on a first-come, first-served basis, which allows the permittee to explore for the mineral. If the mineral is then found in commercial quantities, a preference right lease can be issued to the permittee. Royalties must be paid on all producing leases. The regulations governing these minerals are found in the 43 CFR 3500 regulations (BLM website).

Leasable minerals located on Forest Service lands are managed by the BLM. The Forest Service is a cooperating agency on the environmental analysis and gives the BLM surface protective measures they would like incorporated into the lease. However, the BLM is not obligated to incorporate those measures.

In 2012 the BLM received a request to prospect for alunite to potentially produce potassium that was located in the Bridgeport District of the Forest Service. After initial processing of the application the BLM has had no contact from the applicant. No other leasable mineral applications have been received by the BLM in recent years.

Mineral Materials (Saleable). Currently there are about 90 small sand and gravel pits largely on BLM lands in the project area that are used mostly for road maintenance. About 11 of those pits are within bi-state DPS habitat. Most of these pits are Nevada Department of Transportation pits managed under rights-of-way granted to the Federal Highway Administration.

Nondiscretionary Actions. The BLM would continue to request that current holders of notices and plans of operation modify their operations to avoid or minimize adverse effects on bi-state DPS and its habitat. Operators must be informed in the request that compliance is not mandatory. New notices and plans of operation would be required to include measures to avoid or minimize adverse effects to bi-state DPS populations and its habitat. The BLM would continue to ensure that new notices and plans of operation comply with the requirements in 43 CFR 3809 to prevent unnecessary or undue degradation (USDI BLM 2012c).

Cumulative Effects. The Pumpkin Hollow copper deposit discussed in reasonably foreseeable future actions is not in bi-state DPS habitat and is about 10 to 15 miles from the nearest habitat and not likely to have any direct or indirect impact on bi-state DPS. The Economic Development and Conservation Act (S. 159) could be passed at some future date and made law which in its current form would designate a wilderness area and certain other lands withdrawn from mineral entry which would benefit the bi-state DPS by not allowing most minerals activities in the area of the wilderness and withdrawal.

There are no effects from the no-action alternative on the management of mineral resources; cumulative effects for the no-action alternative are the same as the direct and indirect effects of the alternative.

Alternative B – Proposed Action

Standards and guidelines in the proposed action would include site-specific analysis of proposed and existing activities in the amendment area. Specific standards and guidelines affecting recreation and lands special uses include the following.

Discretionary Actions

Direct and Indirect Effects. The impacts of implementing the proposed action on the discretionary minerals actions would likely include timing limitations, such as seasonal use restrictions on operations or surface disturbing activities, daily timing limitations, processing placement alternative analysis, mitigating some proposed actions due to the impact on habitat, meeting specific revegetation establishment conditions and diversity, and off-site mitigation to offset the surface disturbance of habitat. Other mitigation measures might include underground placement of pipelines and powerlines inside habitat, color or height requirements for certain structures, and so on. These requirements would have a certain negative financial impact on the proponent, but will vary greatly depending on the specific project.

Fluid Minerals

Direct and Indirect Effects. Guidelines and standards for fluid mineral actions encompass the general list for all projects as well as the “Minerals General” and “Fluid Minerals” in Table 2-5.

Geothermal leasing decisions have been made for all the study area except the Carson City Ranger District of the Forest Service. Oil and gas leasing decisions have been made for most of the BLM lands only. Current leases have stipulations and conditions of approval assigned to the lease by the BLM. The standards and guidelines will impact future NEPA as projects are proposed on the lease, but will not change the existing lease stipulations and conditions of approval. However, future leases will be assigned stipulations and conditions of approval that are consistent with the standards and guidelines. Fluid mineral infrastructure are approved on the lease through the operating plan, but off the lease the powerlines, pipelines, road use and so forth are approved under special use permits on Forest Service lands and rights-of-way on BLM land. Impacts due to needing special use permits and rights-of-way can be found in the land use section in the EIS.

Existing and future fluid mineral leases could potentially be affected by implementation of standards and guidelines. Future project specific analysis could require modification of operating plans to meet seasonal and buffer restrictions for example. New leases, applications for permit to drill (APDs), utilization plans and so forth could still be authorized, but would be subject to standardized stipulations relating to the standards and guidelines.

In some cases, if new proposed activities were determined to have an adverse effect on bi-state DPS and they could not be sufficiently mitigated, operating plans would have to be modified. In some cases, the lease holder may find the mitigations too costly and may withdraw their application and drop their lease. Restrictions on facility placement, limited access, increased administrative costs, and installation of facilities in less-than-optimum sites could all result if projects were proposed in habitat.

Oil and gas drilling and well production has some flexibility since they can use directional drilling to drill up to 5 miles away from the collar location and drill numerous holes of differing directions from one platform (Wikipedia 2014). One guideline allows one area of disturbance for every 640 acres (1 square mile) which should work well for oil and gas exploration. However, geothermal drilling is not nearly as versatile due largely to the cost/benefit of directional drilling and the structural geologic setting that is important to be located within. Geothermal power production must have multiple drill holes precisely located so they can draw hot geothermal water from a specified region, and after using some of the heat, reinject the water in a different area of the circulating hydrothermal subsurface cell.

Opportunities for economic growth may be impacted by proponents not proceeding with acquiring leases and operating plans because of mitigations placed on these leases and subsequent operating plans. The amount of impact would depend on the type and expense of the mitigation. If significant oil- and gas-bearing horizons were suspected in the study area, impacts to future oil and gas exploration and production would be minor since they would likely choose to drill from outside the habitat or locally inside the habitat. Some geologic units would likely be inaccessible for oil and gas production since the cost and technology would not allow the area to be reached from outside the habitat. However, geothermal development would be impacted more significantly. The structural geological setting that must be present, along with the right geothermal conditions, cannot be moved out of the habitat and the drilling and production facility can only be modified to a certain degree to attempt to meet the standards and guidelines. A project proposed in these areas may be subject to additional requirements, such as resource surveys and reports, construction and reclamation engineering, long-term monitoring, special design features, special siting requirements, timing limitations, and rerouting. Such requirements could restrict project location or they could delay project implementation.

Access could also be affected through implementation of this alternative. The use of existing roads and construction of new roads would not be prohibited through the proposed action; however, future site-specific NEPA could modify or change access to Forest Service or BLM lands if the proposed roads did not fall under the types allowed in the guideline.

It is likely that most geothermal companies would develop outside the habitat due to the limitations created by the standards and guidelines.

Solid Leasable Minerals

Direct and Indirect Effects. Solid leasable minerals under this alternative have guidelines that recommend that exploration, facilities, and mining should not be located in habitat. However, the underground mining and exploration below the habitat could be proposed and potentially approved. Since solid leasable minerals rarely are found in economic quantities within the study area, impacts are expected to be minor.

Mineral Materials (Saleable)

Direct and Indirect Effects. Existing mineral material pits would be allowed to be developed, but would have numerous requirements added to new sales due to the standards and guidelines. Site-specific NEPA on new permits could add seasonal timing limitations, offset mitigation, hours of operation and other requirements. Crushing and screening operations may be impacted by the height of infrastructure requirement and may not be allowed at some sites. Proposals for exploration and new pits would not be allowed.

Mineral materials such as sand and gravel will likely continue to have the same demand as present or increase slightly due to increased home development. However, there appear to be enough existing gravel pits or exploration potential outside of habitat to meet the need, but would have an increase in cost to haul the material the additional distance.

Nondiscretionary Actions (Locatable Minerals)

Direct and Indirect Effects. There are approximately 17,000 active mining claims in the study area. Nondiscretionary actions from locatable exploration or mining proposals would have potentially the same impacts as discretionary mineral actions except that a reasonable plan of operations cannot be denied, but would have practicable mitigation measures to minimize or eliminate the impacts on sage grouse and the habitat. Some mining proposals might also have some portions of the proposed surface disturbance that

cannot be revegetated, such as pit high-walls. Off-site mitigation can be requested for these actions but the operator is not obligated to comply.

The future of various commodities prices is expected to rise and fall similar to the past and thus the exploration and development of these commodities will do the same. Since the study area has many different types of mineral potential. The area will likely see continued exploration for more than one commodity.

Since this proposed action does not withdraw any Federal lands from mineral entry, mining claims will likely continue to be located but may have a somewhat reduced impact to bi-state DPS due to the increased time to process a plan of operation and increased cost to produce a product. An increased time to process a plan of operations has a definable negative impact on minerals actions because the ability to raise capital to explore or develop is based on a historically fluctuating commodity price, no matter what the commodity. The longer it takes to approve a plan of operations the more financial impact to the operator and the less likely that they will be able to implement their project. This is evident from the historic plan of operations processed on the Humboldt-Toiyabe National Forest. The Forest Service is legally mandated to process locatable plans of operation in a timely manner.

The cash costs as well as the capital costs to explore, develop, mine, and produce mineral products will likely go up by some unknown amount and will vary depending on the location and mitigation applied to an individual project. These increased costs will negatively impact the number of jobs available in the minerals sector.

Cumulative Effects

There are no cumulative effects from past or present minerals actions. There are no present or future actions that when combined with the proposed amendment would incrementally alter how mineral resources are managed in the amendment area.

Response to Threats

This alternative would allow current gravel pits to be used, but would not allow new deposits to be explored or mined. Current pits could expand, but would have no net loss of habitat mitigation along with timing limitations and specific reclamation requirements. Solid leasable mineral leases would have a no-surface-occupancy stipulation which would only allow occasional driving on existing roads and low impact geophysical surveys. All other activities would not be allowed, so there would be virtually no impact to the habitat or bi-state DPS. Locatable minerals would be allowed to continue to explore or mine, but with timing limitations, BMPs, and sufficient mitigations to eliminate or minimize impacts to bi-state DPS and the habitat.

Summary of Effects

While these standards and guidelines with only have minor impacts on oil and gas exploration and production, they would have a much greater impact on geothermal exploration and production. Consequently most geothermal exploration would likely take place outside of habitat. Solid leasable minerals would not be expected to be permitted in habitat but existing gravel pits would continue some level of seasonal production most likely. Locatable minerals would experience impacts resulting from site-specific NEPA such as likely seasonal restrictions, delay in processing and other mitigations.

Alternative C

Standards and guidelines in alternative C would include additional restrictions on proposed and existing activities in the amendment area. Specific standards and guidelines affecting minerals include the following. For a complete list of alternatives see (Table 2-5).

Discretionary Actions

Fluid Minerals

Direct and Indirect Effects. This alternative would only allow new leases granted to have a no-surface-occupancy stipulation. No surface occupancy for this alternative means that the lease holder can only perform casual use activities as defined by the BLM and some types of geophysical surveys that are minimally disturbing of the surface. Use of low grade roads is also limited and no new roads would be created. Also, no drilling or infrastructure could be placed in habitat.

The other guidelines and standards would apply to existing leases recognizing valid existing rights. Impacts to oil and gas exploration and production would be much more costly to accomplish all drilling from outside the habitat. However, some limited geophysical exploration and casual use activities would provide some means to use the habitat areas to help identify targets and deposits outside the habitat with no real impact to the habitat. Since there is only low potential for oil and gas deposits in the study area, the impacts on oil and gas exploration and production are expected to be very minor.

Geothermal exploration and production would, however, be considerably impacted. No surface occupancy coupled with no rights-of-way grants and no transmission lines in habitat would make it difficult to explore and produce electrical power and transmit it to the grid. Although, there would be some potential to put transmission lines outside of habitat and would likely be additional length of transmission lines to get the power to the grid which would cost more. The cost of drilling would be substantial over alternative B, since closed loop systems would be utilized with no reserve pits and noise shields would have to be used.

Solid Leasable Minerals

Direct and Indirect Effects. Similar to alternative B, solid leasable minerals would not be allowed to be prospected with a permit or mined from the surface in habitat. This alternative it appears as a standard verses a guideline in alternative B. The Forest Service is a cooperating agency for solid leasable minerals and the BLM is not required to fulfill the Forest Service request, but would commonly comply with the petition. Nothing in these guidelines or standards would preclude exploration, development, and mining outside habitat or underneath the habitat as long as the infrastructure was outside of habitat. Since the potential for solid leasable minerals is low and past production was very minor in the study area, the impact on solid mineral exploration and mining is expected to be minor.

Mineral Materials (Saleable)

Direct and Indirect Effects. This alternative would not allow new sales or expansion of existing pits. Current sales contracts would be allowed to be completed, but without the potential for renewal. Mineral materials needed for road maintenance and development would have to come from pits outside the habitat. Community pits and free use pits are somewhat uncommon on both BLM and Forest Service lands within the study area. The Forest Service and BLM also use these pits to maintain their system of roads. If the community pit was located within the habitat, another source outside habitat would have to be used or a new one prospected and developed. Road maintenance in these areas is mostly accomplished by the state or county and their costs to maintain these roads would increase according to the haul distance.

Nondiscretionary Actions (Locatable Minerals)

Direct and Indirect Effects. Under this alternative the Forest Service would petition the BLM to withdraw the locatable mineral rights subject to valid existing claims from the habitat area. The BLM would prepare appropriate documents to request withdrawal of the habitat area on Forest Service and BLM lands to be submitted to the Washington Office for approval. Once the withdrawal was completed no new mining claims would be valid. The impacts to locatable mineral exploration and mining would be

considerable. Valid existing rights followed by surface use determinations and/or validity exams would be performed on all new proposals for exploration and mining on existing mining claims. The amount of time for the Forest Service to complete those determinations or exams would be significant and likely take years to complete.

There are five active mining operations and many old mining districts in the study area. The potential to find additional mineable ore is most common near new or old existing mines or mining districts. The current mining operations would not likely be impacted by the withdrawal of the mineral rights, but the expansion potential and exploration potential would be substantially impacted and curtailed.

Cumulative Effects

The Forest Service has one proposal for testing the surface for a potential heap leach and waste rock repository of a potential gold mine on private land at the Pine Grove deposit. Depending on the timing of withdrawal and valid existing rights of this project, it could be impacted by this alternative by not allowing the facilities to be placed on Forest Service land within habitat. This proposal is on the edge of the habitat and site-specific surveys would be needed to determine the habitat boundary.

Response to Threats

This alternative would not allow continued mineral material mining or expansion, excepting and recognizing valid existing rights. Mineral materials for construction and road maintenance would have to come from outside the habitat. No leasing would be granted for solid leasable mineral exploration or mining; therefore, there would be no impact to bi-state DPS. The BLM would be petitioned to withdraw the locatable mineral rights from the habitat. If the current administration approved the withdrawal (which takes a minimum of 2 years to process) only valid existing rights from valid existing mining claims prior to withdrawal would have continued exploration or operations. Expansion of operations or new proposals would have to demonstrate valid existing rights and would be subject to timing limitations, BMPs, reclamation requirements, and numerous mitigations to protect the bi-state DPS and the habitat.

Summary of Effects

Many of the operating mines, existing gravel pits, and exploration projects would continue operating for a while, but new proposals in habitat would be significantly curtailed on both discretionary and nondiscretionary project proposals.

Effects on the Management to Fire and Fuels Program Management on Federal Lands

Affected Environment

Fire is an inherent component of ecosystems and historically has had an important role in promoting plant succession and the development of plant community characteristics. Control of fires and other land use practices during the last century has changed plant communities by altering the frequency, size, and severity of wildfires. The Federal Wildland Fire Management Policy was developed by the secretaries of the DOI and the USDA in 1995 in response to dramatic increases in the frequency, size, and catastrophic nature of wildland fires in the U.S. The 2001 review and update of the policy consisted of findings, guiding principles, policy statements, and implementation actions, and replaced the 1995 Federal Wildland Fire Management Policy. Known as the 2001 Federal Wildland Fire Management Policy (USDI et al. 2001), this update “recommends that federal fire management activities and programs are to provide for firefighter and public safety, protect and enhance land management objectives and human welfare, integrate programs and disciplines, require interagency collaboration, emphasize the natural ecological role of fire, and contribute to ecosystem sustainability.” The policy provides nine guiding principles

fundamental to the success of the Federal wildland fire management program and the implementation of review recommendations.

The Guidance for Implementation of Federal Wildland Fire Management Policy (Forest Service 2009d) is the most recent guiding principle for these documents. These umbrella principles compel each agency to review its policies to ensure compatibility. The management of BLM- and Forest Service-administered lands include the control of wildfires, the use of fire through prescribed burning, or the use of fire through the management of wildfires in order to meet land management goals. Wildland fire management on BLM-administered and NFS lands is guided by a fire management plan that considers the three elements mentioned and includes firefighter and public safety and cost effectiveness.

Wildland fires occur from natural causes, such as lightning, or are human caused. Prescribed fire is used for beneficial purposes (such as reducing hazardous fuel accumulation or restoring ecosystem health) in a controlled manner under a specific prescription and planned effort. Wildland fires can be managed for multiple objectives either by a full suppression response or to achieve land management objectives or combinations of both. The response to a wildland fire is based on an evaluation of risks to firefighter and public safety; the circumstances under which the fire has occurred, including weather and fuel conditions; natural and cultural resource management objectives; and resource protection priorities.

Fire is a management tool used to maintain or increase age class diversity within vegetation communities (e.g., big sagebrush/grassland); rejuvenate fire-dependent vegetation communities (e.g., aspen); maintain or increase vegetation productivity, nutrient content, and palatability; and maintain or improve wildlife habitat, rangeland, and watershed condition. Fire is also considered a management tool for disposal of timber slash, seedbed preparation, reduction of hazardous fuel, control of disease or insects, grazing management, thinning, or species manipulation in support of forest management objectives. In sagebrush ecosystems, fire has been identified as one of the primary factors linked to loss of sagebrush-steppe habitat. Wildfire has been increasing the loss of habitat due to an increase in fire frequency. This increase in fire frequency has been facilitated by the incursion of nonnative annual grasses, primarily cheatgrass, into the sagebrush ecosystems (Miller and Eddleman 2000). In areas where cheatgrass invasion has occurred, fuel profiles have changed, resulting in increased surface fire intensities, shorter fire return intervals, and larger fire sizes (Knapp 1996; Epanchin-Niell et al. 2009; Rowland et al. 2010; Baker 2011; Condon et al. 2011). Without sufficient rehabilitation efforts, these larger burned areas are prone to even more cheatgrass invasion.

Fire Regimes

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning (Agee 1993). Coarse- scale definitions for natural (historical) fire regimes have been developed by Hardy et al. (2001) and Schmidt et al. (2002) and interpreted for fire and fuels management by Hann and Bunnell (2001). The five natural (historical) fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity (amount of replacement) of the fire on the dominant over story vegetation. The following table displays the fire regime groups and descriptions for the project area the five regimes include:

- I** – 0 to 35 year frequency and low (surface fires most common) to mixed severity (less than 75 percent of the dominant overstory vegetation replaced);
- II** – 0 to 35 year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);
- III** – 35 to 100+ year frequency and mixed severity (less than 75 percent of the dominant overstory vegetation replaced);

IV – 35 to 100+ year frequency and high (stand replacement) severity (greater than 75 percent of the dominant overstory vegetation replaced);

V – 200+ year frequency and high (stand replacement) severity.

Table 3-21. Fire regimes for the bi-state DPS project area

Group	Description	Proportion (%) of Project Area
Fire Regime Group I	≤35 Year Fire Return Interval, Low and Mixed Severity	5
Fire Regime Group II	≤35 Year Fire Return Interval, Replacement Severity	<1
Fire Regime Group III	35–200 Year Fire Return Interval, Low and Mixed Severity	33
Fire Regime Group IV	35–200 Year Fire Return Interval, Replacement Severity	24
Fire Regime Group V	>200 Year Fire Return Interval, Any Severity	33
	Other (including sparsely vegetated, barren and water)	~4

Fire Regime Condition Class

Fire Regime Condition Class (FRCC) is an interagency, standardized tool for determining the degree of departure from reference condition vegetation, fuels, and disturbance regimes (FRCC 2011). FRCC uses various parts of a biophysical setting (Bps)⁷ by comparing the current conditions to document reference conditions; then gives a rating for each Bps based on various factors including succession conditions, fire frequency,⁸ and fire severity.⁹ The three condition classes FRCC uses to describe a Bps departure from reference condition are defined in the following table.

Table 3-22. Fire regime condition classes

Condition Class	Description
Low departure (<33%) from reference condition is defined as Condition Class 1	Vegetation composition, structure, and fuels are similar to those of the natural regime and do not predispose the system to risk of loss of key ecosystem components. Wildland fires are characteristic of the natural fire regime behavior, severity, and patterns. Disturbance agents, native species habitats, and hydrologic functions are within the natural range of variability.
Moderate departure (33–66%) from reference condition is defined as Condition Class 2	Vegetation composition, structure, and fuels are different from those of the natural regime and predispose the system to risk of loss of key ecosystem components. Wildland fires are moderately uncharacteristic compared to the natural fire regime behaviors, severity, and patterns. Disturbance agents, native species habitats, and hydrologic functions are outside the natural range of variability.
High departure (>66%) from reference condition is defined as Condition Class 3	Vegetation composition, structure, and fuels are very different from the natural regime and predispose the system to high risk of loss of key ecosystem components. Wildland fires are highly uncharacteristic compared to the natural fire regime behaviors, severity, and patterns. Disturbance agents, native species habitats, and hydrologic functions are substantially outside the natural range of variability.

⁷ Biophysical settings (Bps) are the primary environmental settings used to determine a landscape's natural fire regime and fire regime condition class (Hann and Bunnell 2001; Hann and Strohm 2003).

⁸ Fire frequency is defined as the average number of years between fires or the mean fire interval (Baker and Ehle 2001; Hann and Bunnell 2001).

⁹ Fire severity is defined as the effects of a fire on the vegetation and forest floor, and is measured in terms of surface and overstory fuel consumption and heat transference to the organic and mineral soil (DeBano et al. 1998).

National and state BLM fire policy requires current and desired resource conditions related to fire management be described in terms of three condition classes. The FRCC system measures the extent to which vegetation departs from reference conditions (or how the current vegetation differs from a particular reference condition). Departures from reference condition could be a result of changes to key ecosystem components such as vegetation characteristics, fuel composition, fire frequency, fire severity, and pattern, as well as other associated disturbances, such as insects and disease mortality. The classification system is used to categorize existing ecosystem conditions and to determine priority areas for treatment as mandated by national direction (USDI BLM 2013).

An FRCC assessment has been done for the planning area utilizing LANDFIRE National layers. Though there may be inaccuracies in the data inputs for this planning area, the coarse-scale results are helpful to broadly identify current conditions. The FRCC assessment outlines the fire regime group of each setting, and the acres of each condition class. The analysis shows more than half of the project area is classified as highly departed from reference condition. The moderate and high departure rating could be a concern as it is likely these areas will continue to move further from reference condition without management or fire disturbance.

Table 3-23. Current FRCC condition classes in the bi-state DPS project area

Condition Class	Description	Percent of Project Area
I	Low Vegetation Departure	15
II	Moderate Vegetation Departure	31
III	High Vegetation Departure	48
	Other (including water, urban, barren sparsely vegetated and agricultural lands)	6
	Total	100

Vegetation

Pinyon-juniper woodlands and Wyoming big sagebrush ecosystems have undergone major changes in vegetation structure and composition since settlement by European Americans. Woodlands of the Great Basin have rapidly expanded into the sagebrush steppe. This expansion and eventual suppression of the invaded sagebrush community has resulted in considerable loss in area for these diverse and productive ecosystems. In many locations this has resulted in increased soil erosion and is increasingly resulting in the increase in the size and intensity of wildfire (Tausch et al. 2005). These changes are resulting in dramatic shifts in fire frequency, size and severity.

Effective management of these systems has been hindered by lack of information on: (1) pre-settlement fire regimes and the spatial and temporal changes that have occurred in Intermountain Region woodlands and sagebrush ecosystems since settlement; (2) changes in fuel loads and the consequences for the ecosystem types and conditions that currently exist on the landscape; and (3) the environmental and ecological factors that influence community susceptibility to invasion by nonnative species (Chambers et al. 2005). The most significant, widespread and persistent threat is the invasion of cheatgrass (*Bromus tectorum*) in disturbed areas. Conifer expansion is the result of a lack of disturbance caused by resource management activities. In some areas of the sagebrush biome, pinyon pine (*Pinus monophylla*) and juniper (*Juniperus* spp.) once existed as open, savannah-like woodlands that were maintained by relatively frequent fires. Since the 1880s, the stand density and distribution of conifer woodlands have increased in many areas. As it expands into sagebrush communities, contiguous sagebrush stands are reduced in size and the diversity of grasses and forbs decreases. Fire suppression policies generally

lengthen fire return intervals in conifer dominated habitats allowing for increased cover densities. (USDI BLM 2013)

Fuels Reduction in Pinyon-juniper Woodlands. Pinyon-juniper woodlands were once viewed as being at a minimal wildfire risk, with low tree stand densities and a lack of continuous and dense ground cover. But as certain conditions arose and persisted—an ongoing drought, a regionwide infestation of the pinyon engraver beetle (*Ips confusus*), and a buildup in stand densities and fuel loadings—the potential for more severe wildfires has also increased (Gottfried et al. 2011).

Prescribed fires and fire use strategies will be more effective in controlling western juniper encroachment if they occur in the earlier stages of succession. The combination of young western juniper being more susceptible to fire damage and fuel loads that allow the manager more opportunity to perform a prescribed burn increase the chances of minimizing the encroachment of western juniper into sagebrush grasslands. Throughout the western United States fire seasons are generally lasting longer with uncharacteristically larger and more severe fires. It is anticipated that climate change will further extend fire seasons. Invasive plants are also of concern and have expanded to create extensive areas of fine fuels where fires spread rapidly.

Fire History and Occurrence

Fire has been the major influence on vegetation patterns, composition, structure, function, age and development of both individual stands and the larger landscape (Arno 2000). Agee (1993) added that changing land use patterns and attempts to exclude fire have succeeded in greatly reducing the scope of fire on the landscape.

Since 1940, 114 fires have occurred within the amendment area. Although many early fires had no accompanying written information and therefore were not included in fire occurrence maps, this data does give a glimpse of the fire history in the area. Fires that escaped detection would also not be included. The fire occurrence data was digitized from historical maps and from Kansas City Fire Database (KCFast). The records from KCFast have detailed information including acreage, cost, and physical location.

Table 3-24. Fire history by size class for the bi-state DPS amendment area

Decade	Size Class (acres)						
	A <0.2	B 0.3–9.9	C 10–99	D 100–299.9	E 300–999.9	F 1,000–4999.9	G 5000+
1940–1949				2	2		2
1950–1959			4			1	
1960–1969		1	4	1	1		
1970–1979			2			1	
1980–1989		2	6	3	2	4	1
1990–1999			6	2	2	1	1
2000–2009		7	10	5	14	4	4
2010–2012		3	9	2	1	4	
Total		13	41	15	22	15	8

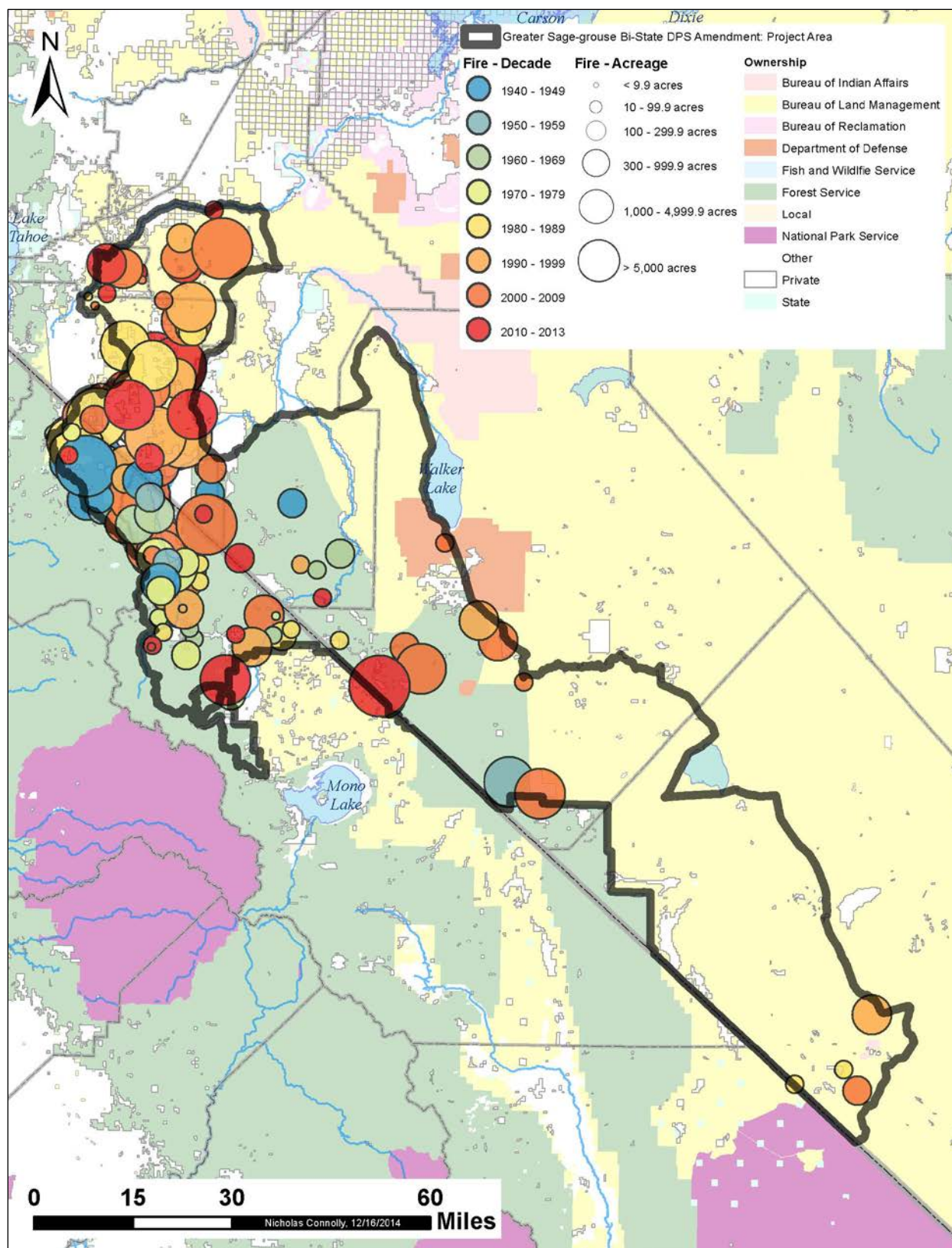


Figure 3-2. Spatial display of fire occurrence in the bi-state DPS amendment area

Fire Behavior and Fuel Condition

Fire behavior is driven by the combination of fuels, topography, and weather across the landscape. Surface fires spread according to the direction and speed of wind and the steepness of a slope. Surface fuels are an important factor in determining how fast a surface fire will spread and how hot it will burn. Surface fuels consist of needles, leaves, grass, forbs, branches, logs, stumps, shrubs, and small trees. Surface fire factors are also important to the initiation and spread of crown fires.

A fire behavior fuel model represents the fuel-bed characteristics necessary to predict surface fire behavior in fire behavior modeling systems. In 2005, Scott and Burgan presented a new set of fire behavior fuel models that expanded on the original 13 created by Anderson in 1982. Advantages of this new set include: increased precision in surface fire intensity prediction and subsequent crown fire behavior prediction, increased ability to simulate changes in fire behavior as a result of fuel treatments, and improved accuracy of fire behavior predictions outside of the severe period of the fire season (Scott and Burgan 2005). Although 21 fuel models are represented in the project area, we will only be discussing the fuel models that compose the majority of the project area or are of greatest concern from a fire behavior standpoint.

Fuel model 101 (GR1) composes 15 percent of the project area and consists of short, sparse grasses indicative of grazed areas. Predicted flame length and spread rate are low with a GR1 fuel model and moisture of extinction is 15 percent. Fuel model 121 (GS1) comprises 11 percent of the amendment area and consists of shrubs about 1-foot high. The grass component is low as well as the predicted spread rate and flame lengths. Moisture of extinction is 15 percent. Fuel model 122 (GS2) has a grass and shrub component; shrubs are 1- to 3-feet high and the grass load is moderate. Fuel model 122 composes 19 percent of the amendment area. Spread rate is high and flame lengths are moderate. The moisture of extinction is 15 percent. Fuel model 141 (SH1) composes 11 percent of the amendment area. The primary carrier of fire in SH1 is shrubs and shrub litter and a small grass component if present. The predicted spread rate and flame lengths are low and moisture of extinction is 15 percent. Fuel model 142 (SH2) composes approximately 6 percent of the amendment area and consists of a moderate load of woody shrubs and shrub litter. There are generally no grass fuels present. The predicted spread rate is low, flame length is low and moisture of extinction is 15 percent. Fuel model 145 (SH5) comprises approximately 16 percent of the area. Woody shrubs and litter are the primary carriers of fire. It consists of a heavy shrub load with a depth of 4 to 6 feet. Predicted spread rate and flame lengths are very high and moisture of extinction is 15 percent. The SH5 fuel model can pose suppression challenges to firefighting forces due to the high spread rate and flame lengths that can be generated with wind speeds of 5 to 10 mph.

Fuel model 183 (TL3) comprises 6 percent of the project area and combines moderate load conifer litter and light load of coarse woody debris. An understory of litter is the main component that will carry fire. This fuel model has a sparse vegetative understory. Rate of spread is very low and flame lengths are low. The moisture of extinction is 20 percent.

Table 3-25. Fire behavior fuel models in the bi-state DPS amendment area

Fuel Model #	Fuel Model Code	Description	Proportion (%)
101	GR1	Short, sparse dry climate grass	15
102	GR2	Low load, dry climate grass	<2
104	GR4	Moderate load, dry climate grass	<1
121	GS1	Low load, dry climate grass-shrub	11
122	GS2	Moderate load, dry climate grass-shrub	19
141	SH1	Low load dry climate shrub	11
142	SH2	Moderate load dry climate shrub	6
144	SH4	Low load, humid climate timber-shrub	<1
145	SH5	High load, dry climate shrub	16
147	SH7	Very high load, dry climate shrub	2
161	TU1	Low load dry climate timber-grass-shrub	<2
165	TU5	Very high load, dry climate timber-shrub	1
183	TL3	Moderate load conifer litter	6
189	TL9	Very high load broadleaf litter	1
		All other fuel models	~6
		Total	100

Wildland Urban Interface Fire Hazard Assessments

The counties in the planning area have developed community wildfire protection plans (CWPPs) which identify fire prevention and protection needs and establish priorities for fire mitigation projects in wildland-urban interface areas. In the CWPPs, areas of concern such as wildland-urban interface, are identified and prioritized based on fuel hazards, risk from wildfire, FRCC assessments, infrastructure, and other values such as view-sheds and watersheds. As an outcome of this project, each assessed community was rated extreme, high, moderate or low in terms of its fire hazard. The Healthy Forest Restoration Act (HFRA) facilitates Federal involvement by requiring interagency collaboration, especially when counties have completed CWPPs. The following website contains the risk hazard assessment reports for all counties in Nevada; <http://www.livingwithfire.info/fire-hazard-assessments> (accessed online June 2013). The California CWPPs are located in the project record.

The study area lies within the Alpine and Mono counties in California, and Douglas, Esmerelda, Lyon, and Mineral Counties in Nevada. The table below shows the acres classified as wildland-urban interface within each of the counties in the states of California and Nevada. The BLM has noted wildland-urban interface areas have been increasing dramatically throughout the Carson City District Planning Area over the past two decades. Examples of additional wildland-urban interface infrastructure includes: powerlines, pipelines, communication sites, recreation facilities, renewable energy, and military training.

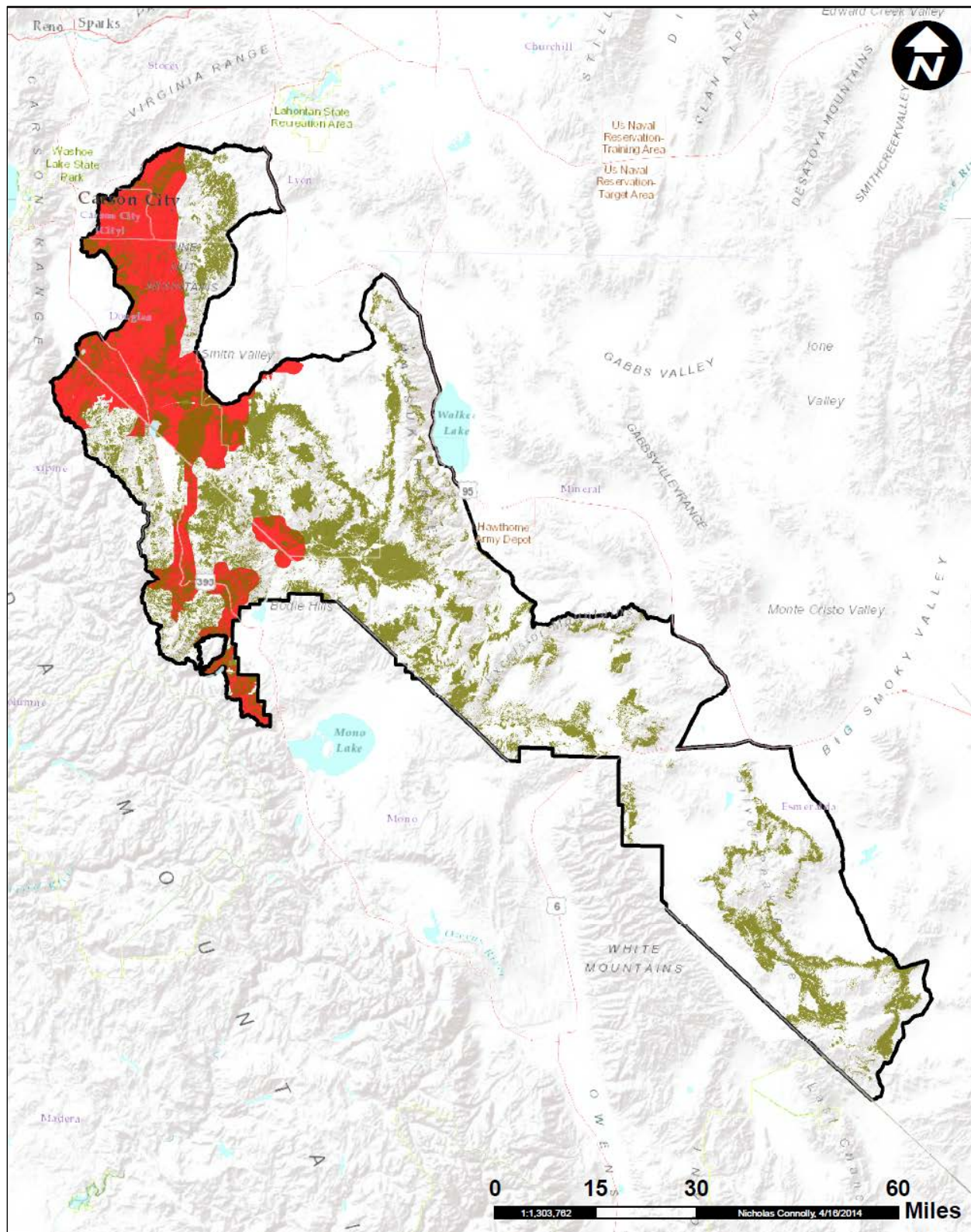


Figure 3-3. Wildland-urban interface areas within the bi-state DPS amendment area

Table 3-26. Wildland-urban interface acres by county for California and Nevada in the bi-state DPS amendment area

County	Acres within bi-state DPS Amendment Area
Alpine County	77,130
Mono County	347,045
Total for California	424,174
Douglas	302,980
Lyon	555,578
Mineral	894,355
Esmeralda	816,243
Total for Nevada	2,606,554
Total acres classified as wildland-urban interface within the project area	515,322
Approximate acres of amendment area	3,030,729
Proportion of project area classified as wildland-urban interface	~2%

Alternative A – No Action

Under alternative A, fire and fuels management would continue using existing agency land management plan policy and direction. Due to interim direction, sage grouse habitat would continue to be a priority after life and property for wildfire suppression actions. Under alternative A, fewer management actions and restrictions would be applied specific to promote, protect, and conserve bi-state DPS habitat. Site-specific environmental analysis would continue to determine stipulations, timing, and location of fuels treatments.

Table 3-27. Indicators for assessing effects to fire and fuels management, alternative A

Indicator	Changes
Alteration in vegetation cover and composition that may result in a positive or negative shift in FRCC.	Fuel treatments would continue to have objectives that would benefit FRCC rating. With fewer restrictions more acres could be treated on an annual basis, therefore positively affecting the number of acres classified as condition class II and III.
Changes in response to and suppression of wildland fire.	Due to interim direction, wildland fire in bi-state DPS habitat would continue to be a priority for suppression after life and property. However, the protection of bi-state DPS habitat would change how wildland fire is managed for other resource benefits. Fire suppression costs are likely to be lower under this alternative.
Change in how fuel treatments are designed and implemented to reduce impacts from wildland fire.	The interim direction for protection of bi-state DPS habitat could change how fuel treatments are planned and implemented in sage grouse habitat. These would be determined through site-specific analysis. Fuel treatment costs are likely to be lower under this alternative. There would be no change in non-habitat areas.

Direct and Indirect Effects of Maintaining Current Management. Management actions under alternative A would place minimal restrictions on fuels management and fire suppression control methods, and therefore would have few impacts on fire management. Fuel treatments will continue to be designed with objectives to modify fire behavior, change the fuel profile, treat fuels in the wildland-urban interface, and in some areas restore native plants and create landscape patterns that benefit bi-state DPS habitat.

Often, natural and planned fires used for fuels treatments and to meet land management plan objectives lower the risk for an uncharacteristic wildfire that can destroy larger acreages or wildlife habitats. Impacts on fire management would vary across the amendment area based on site-specific objectives for other resource concerns. The current agency land use plans address fire suppression and fuels management and more detailed fire management plan outline priorities and levels of suppression for resource value protection or other concerns. Recent, interim, direction has specific objectives and management action for suppression and management of fires within sagebrush vegetation communities and sage grouse habitat in accordance with local conservation strategies.

Fuel treatments that reduce vegetation and mimic natural fire effects generally contribute to an upward shift in FRCC, creating landscapes that are more resilient to wildfires. Fuel treatments to improve, create, or re-establish healthy ecological conditions in various vegetation types benefit the fire and fuels program in the long term by shifting FRCC to historic conditions and promoting the most efficient use of fire and fuels resources. Management under alternative A would generally allow for the use of prescribed fire and vegetative treatments where needed. Fire suppression would be prioritized to protect human life, property, and high-value resources as well as manage wildfire for land management objectives. Impacts would vary throughout the amendment area based on site-specific habitat objectives and treatments applied. Minimal restrictions for location and implementation of fuels treatments with alternative A would result in more acres treated on an annual basis therefore positively affecting the number of acres classified as condition class II and III. Wildland fire, prescribed fire and fuel treatments may improve sage grouse habitat by increasing structural and age diversity. Due to the flexibility in management of prescribed and wildland fires, fire suppression and fuels treatment costs are likely to be lower under alternative A.

Cumulative Effects of Maintaining Current Management. Past wildland fire events have had an effect on the landscape and will continue in the future. Cumulative effects from wildfires and past management activities are discussed in the existing condition section of this report. The existing condition has been influenced by fire suppression and wildfire activity, as well as natural and artificial activities including grazing, mechanical treatments, urban development, climate change, insects and disease and prescribed burning. Maintaining current management combined with future fuels reduction activities would modify fire behavior by contributing to the overall reduction of fuels and modification of the fuel profile, thereby reducing fire behavior potential within the amendment area. Invasive plants will continue to be of concern in fire management as most fire management activities are either surface or vegetation disturbing and subsequently, the impacts from these activities include increased susceptibility to exotic species (USDI BLM 2013). With the potential listing of sage grouse as a threatened species, response to wildfires in sage grouse habitat could change from limited or conditional suppression to full suppression/protection. These changes could increase costs and add complexity to wildland fire management.

Summary of Effects. Interim guidance currently addresses priority suppression in sage grouse habitat areas; therefore, sage grouse habitat will continue to be a priority after life and property for wildfire suppression actions. Fuel treatments will continue to be designed with objectives to modify fire behavior, change the fuel profile, treat fuels in the wildland-urban interface, and in some areas restore native plants and create landscape patterns that benefit/protect bi-state DPS habitat.

Alternative B – Proposed Action

Under this alternative, more specific standards and guidelines are identified for managing anthropogenic uses. Specific standards and guidelines affecting fire and fuels management can be found in under the fire and fuels section of Table 2-5.

Table 3-28. Indicators for assessing effects to fire and fuels management, alternative B

Indicator	Changes
Alteration in vegetation cover and composition that may result in a positive or negative shift in FRCC.	Fuel treatments would continue to have objectives to positively affect FRCC rating. Restrictions on reduction of canopy cover could increase fuel loads and associated fire risk and negatively affect FRCC rating.
Changes in response to and suppression of wildland fire.	Wildland fire in bi-state DPS habitat becomes a priority for suppression after life and property. Fire suppression costs are likely to be higher under this alternative due to the added complexity of protecting habitat. Additional resources may be required to enable a quicker more effective response to wildfire in habitat areas.
Change in how fuel treatments are designed and implemented to reduce impacts from wildland fire.	Restrictions on fuels treatment could impact ability to control fuel loading levels and result in increased fire risk. Fuel treatments costs are likely to be higher under this alternative as well. There would be no change in non-habitat areas.

Direct and Indirect Effects. Alternative B would provide additional protection and restoration measures in sagebrush habitat, as compared to alternative A. Fire and fuels management projects would be designed to promote bi-state DPS habitat by protecting and promoting existing sagebrush ecosystems. This would be accomplished by maintaining sagebrush cover, requiring the use of native seeds, reducing the threat of invasive plants and placing fuels management projects in habitat to reduce wildfire threat. These proposed modifications to fire and fuels management would result in increased sagebrush protection as compared to alternative A. Prioritizing fire suppression in bi-state DPS habitat would protect vegetation by reducing the threat and effects of wildfire, but could result in increased fuel load and spread of noxious weeds in those areas. Prioritizing suppression to conserve habitat may limit suppression options and increase cost for fire management programs as compared with alternative A. This is due to the likelihood of an aggressive suppression response and more resources required to protect habitat. Prioritizing bi-state DPS habitat over property or infrastructure is a decision that would likely be made by land managers and incident command personnel.

Prescribed fire and mechanical treatments focused in bi-state DPS habitat will be more effective in controlling encroachment of undesirable shrub species. Prescribed fire is a tool that can assist in the recovery of sagebrush habitat in some vegetation types, and many treatments would likely be located adjacent to private land to reduce fuel loading to acceptable levels also meeting fire and fuels management objectives. The combination of young western juniper being more susceptible to fire damage and reduced fuel loads allows fire managers more opportunity to perform a prescribed burn and minimize the encroachment of western juniper into sagebrush ecosystems.

Vegetation treatments used to mitigate impacts by creating or improving sagebrush areas is where the impact on wildland fire management would occur. Aggressive fire suppression and altered fire regimes have caused vegetation to miss a fire cycle or two, resulting in decadent, dead stands. This can increase fire intensity and fire severity of an area. By reducing or dis-continuing the use of vegetation treatments that mimic the natural fire effects, typically a downward shift in FRCC rating results, leaving areas more prone to large wildfires with greater intensity and severity. Fuel treatments typically create early seral vegetation that is less likely to support large wildfires and therefore maintain or positively affect FRCC rating. Restoration projects that benefit bi-state DPS would improve FRCC including reducing the infestation of cheatgrass and other nonnatives that can alter fire frequency and removing encroaching conifers could reduce fire intensity and fire potential and subsequently improve FRCC.

Vegetation and weed treatments that decrease standing vegetation and associated fuel loads could decrease the intensity of wildland fires and allow fires to be more easily controlled. Prescribed fire could

be utilized for noxious weed control. However, after prescribed burning, areas would need to be monitored and emerging weeds treated on a site-specific basis. Management actions that increase and maintain sagebrush and other shrub cover may result in increased fuel loading, which increases the intensity of wildland fire.

Fuel treatments to meet bi-state DPS habitat objectives would more likely be mechanical, which can be more expensive than using prescribed fire as a treatment method. This is due to the necessity of treatments to retain minimum percent cover of sagebrush. This is more easily ensured when using mechanical treatments versus prescribed fire treatment methods. If treatments are more expensive, fewer acres can be treated with the same amount of funds. Restrictions on fuels treatment could impact ability to control fuels levels and result in increased fire risk.

For example: Restrictions on reduction of canopy cover could increase fuel loads and associated fire risk. Allowing a range of fuel treatment options provides management flexibility to reduce large fire costs and achieve fire and fuels goals and objectives. Prioritizing areas for fire suppression can limit management options and increase costs for fire management. Management actions that are intended to improve, create, or re-establish healthy ecological conditions in various vegetation types benefit the fire and fuels program in the long term by shifting FRCC to historic conditions and promoting the most efficient use of fire and fuels fire management program resources.

Cumulative Effects. Fire suppression has generally been effective in these areas and it is reasonable to assume it would continue into the future, but may become increasingly difficult if fuels accumulate in the absence of frequent, low intensity fire and mechanical treatment in habitat areas. Post-fuel treatment and restoration management projects in habitat would be designed to ensure long-term persistence of seeded or pre-treatment native plants to maintain the desired condition to protect and conserve habitat. Some restoration projects in bi-state DPS habitat may not meet hazardous fuels reduction objectives and therefore may be more prone to wildfire due to lack of disturbance. Completed restoration projects may further increase the suppression priority of that area, increasing demands for fire suppression resources. Combining efforts to reduce fuel loading and improve habitat will increase the amount of vegetation treatments possible and will reduce the impact on the overall disturbance on the landscape. This would also be important for areas currently in fire regime condition classes II and III, where a positive shift in condition class could be expected in treated areas.

Summary of Effects. The standards and guidelines proposed under this alternative that relate to fire and fuels management provide a more concentrated focus and priority on bi-state DPS habitat retention and avoidance of impacts than the current situation, under which the agencies operate using interim guidance. When wildfires occur in bi-state DPS habitat, the habitat will be prioritized for suppression immediately after life and property, and unburned bi-state DPS habitat within a fire perimeter will be protected. Although interim guidance currently addresses priority suppression in sage-grouse habitat areas, this alternative would make this guideline policy.

Alternative B proposes a standard to include fuels treatments that will emphasize protection of existing sagebrush ecosystems. In addition, fuel management projects will be proposed in habitat to reduce wildfire threats and fire will not be used where the risk of escaped fire could cause negative long-term impacts.

In addition, restoration objectives will be proposed for projects occurring in habitat areas. Alternative B includes several guidelines to address the threat of cheatgrass, including fire and brush control not being utilized in areas where there is a risk of cheatgrass invasion. Restoration and protection of sagebrush ecosystems is also addressed under this alternative and includes not utilizing fire, and mechanical treatments in pre-identified areas based on zonal precipitation averages and minimum vegetation cover

thresholds. Some projects will be developed to include a restoration focus to benefit sagebrush ecosystems and bi-state DPS habitat.

Alternative C

Under alternative C, more conservation-oriented and restrictive standards and guidelines are proposed.

Table 3-29. Indicators for assessing effects to fire and fuels management, alternative C

Indicator	Changes
Alteration in vegetation cover and composition that may result in a positive or negative shift in FRCC.	Fuel treatments would continue to have objectives to positively affect FRCC rating. Restrictions on reduction of canopy cover could increase fuel loads and associated fire risk and negatively affect FRCC rating.
Changes in response to and suppression of wildland fire.	Wildland fire in bi-state DPS habitat becomes a priority for suppression after life and property. Fire suppression costs are likely to be higher under this alternative due to the added complexity of protecting habitat. Additional resources may be required to enable a quicker more effective response to wildfire in habitat areas.
Change in how fuel treatments are designed and implemented to reduce impacts from wildland fire.	Restrictions on fuels treatment could impact ability to control fuel loading levels and result in increased fire risk. Fuel treatments costs are likely to be higher under this alternative as well. There would be no change in non-habitat areas.

Direct and Indirect Effects. Effects from fire management would be similar to under alternative B. Under alternative C, fuels and other treatments to benefit habitat could be proposed with an emphasis on maintaining, protecting, and expanding sagebrush ecosystems. Emphasis would be concentrated in bi-state DPS habitat to protect and conserve the habitat. The risk of high intensity fire could be reduced in these areas, thus causing a shift in condition class III areas to condition class II.

Creating and maintaining fuel breaks and green strips in strategic locations, prioritizing wildfire suppression, and focusing fuel treatments in habitat would reduce the size and intensity of wildland fires in habitat areas, but may result in an increase in fuels management implementation and fire suppression costs. Alternative C would also provide added measures for fuels treatment effectiveness and post-fire rehabilitation activities and monitoring. These added measures would increase both fuels management planning, implementation, and post-fire rehabilitation costs, but would increase the awareness and encourage partnerships with other agencies and resource programs.

Management under alternative C would limit the placement of fire suppression infrastructure in areas of solid sagebrush which would result in some loss of flexibility in management of wildfire and an increase in fire suppression costs. The added emphasis of prepositioning resources and prioritizing fire suppression immediately after firefighter and public safety would increase the use of resource, increasing firefighter exposure as well as overall program costs. However, it would result in a reduction in the loss of habitat from wildland fire. Under alternative C, added measures would be incorporated in overall fire management planning to protect habitat. These added measures would increase planning time and costs, but would result in an increase in awareness and potentially benefit bi-state DPS habitat.

Cumulative Effects. The cumulative effects for alternative C are expected to be the same as those for alternative B.

Summary of Effects. Many of the standards and guidelines proposed under this alternative that relate to fire and fuels management use the “resistance and resilience” concept developed by the WAFWA group

and provide a more concentrated focus and priority on bi-state DPS habitat retention and avoidance of impacts than the current situation, under which the agencies operate using interim guidance.

Wildfire suppression policy is expected to be the same as alternative B with the addition of fires that occur in sagebrush ecosystems and identified as moderate to low resilience and resistance will be aggressively suppressed. This alternative also proposes fuel breaks that would be included with vegetation treatments to provide anchor points to aid in more aggressive wildfire suppression actions.

In addition, the use of mechanical treatments versus fire in low resistance/resilience areas will aggressively address cheatgrass and other invasives as well as early to mid-phase pinyon juniper expansion. Reducing fuel loading levels will reduce the risk of high severity fire in habitat. Fuel breaks and green strips would be aimed at protecting sagebrush cover. In addition, alternative C includes several guidelines for aggressive management of cheatgrass, other invasives and sagebrush ecosystems during restoration activities.

Short-term Uses and Long-term Productivity

NEPA requires consideration of “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). As declared by the Congress, this includes using all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101). Discussion related to short-term uses and long-term productivity can be found in detail under individual resource discussions.

All alternatives may result in implementation of ground-disturbing activities to meet objectives. Such ground-disturbing activities may produce short-term effects to soil, water quality, and habitat while providing the long-term benefits in terms of the restoration and conservation of bi-state sage grouse and its habitat. Specific effects would be analyzed during the appropriate NEPA analysis for the activity.

Unavoidable Adverse Effects

As a programmatic decision with no physical action, there are no unavoidable adverse effects. Implementation of site-specific projects or activities consistent with the approved amendment may result in unavoidable adverse effects. Analysis and disclosure of those effects would be displayed in the appropriate NEPA documents for those site-specific projects or activities.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time, such as the temporary loss of timber productivity in forested areas that are kept clear for use as a powerline rights-of-way or road.

Due to the programmatic nature of the proposed amendment, it would not result in irreversible actions or alternatives. No alternative makes any irretrievable or irreversible commitments of resources. This amendment includes goals, objective, standards and guidelines to help direct management of activities occurring in bi-state sage grouse habitat. There is no commitment of resources, no prohibitions of activities, and no directions that cannot be changed or altered to allow future actions.

Other Required Disclosures

Several of the laws and executive orders listed in chapter 1 require project-specific findings or other disclosures. They apply to all alternatives considered in detail in this EIS.

Legislative and/or Regulatory

Endangered Species Act. Federally threatened or endangered species known to reside or nest in the project area will not be affected by adoption of the regulatory measures proposed in this final EIS.

National Historic Preservation Act. Cultural resource surveys have not been completed for this project. Nothing in this proposed action requires ground-disturbing activity that could impact historic properties located in the planning area. Cultural resource inventories will continue to be required for all site-specific project activities.

Clean Water Act. Nothing in this proposed action will change or modify standards, guidelines, and direction contained in the Forest Plan, BMPs, and applicable FSM and FSH direction or the BLM's resource management plans. Ongoing and future site-specific projects will adhere to these standards, guidelines, and direction, and by doing so will continue to be consistent with the Clean Water Act and amendments. No permits are required for any of the alternatives.

Clean Air Act. There are no emissions related to implementation of any of the proposed action and selection of the proposed action or alternatives will not exceed State of Nevada Ambient Air Quality Standards (46 FR 43141).

Effects on Prime Farm Land, Range Land, and Forestland

No prime farm land or range land would be adversely affected by the action alternatives. Forestland would maintain its long-term productivity.

Effects on Civil Rights, Women, and Minorities

This project would not have adverse effects on civil rights, women, or minorities.

Executive Orders

Executive Order 11593 (Cultural Resources). Directs Federal agencies to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the Nation. This action will not impede the ability of the Forest Service or BLM to follow this direction.

Executive Order 11988 (Floodplains). Directs Federal agencies to take action to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains. A floodplain is defined as "the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of off shore islands, including at a minimum that area subject to a 1 percent or greater of flooding in any given year." Forest Plan standards and guidelines identify floodplains as a process group within riparian management areas and provide direction to avoid development in these areas. The proposed action does not propose occupation or modification of floodplains.

Executive Order 11990 (Wetlands). Requires Federal agencies to avoid, to the extent possible, the long-term and short-term adverse effects associated with the destruction or modification of wetlands. The proposed action does not propose occupation or modification of wetlands.

Executive Order 12898 (Environmental Justice). Directs Federal agencies to identify and address the issue of environmental justice, which concerns adverse human health and environmental effects of agency

programs that disproportionately affect minority and low-income populations. For the purpose of screening for environmental justice concerns, minority and low-income populations are not a concern in Alpine, Douglas, Esmeralda, Lyon, Mineral, or Mono counties. The widely dispersed area over which this management direction takes place makes it unlikely that any particular minority or low-income population in Alpine, Douglas, Esmeralda, Lyon, Mineral, or Mono counties is disproportionately impacted. Implementation of the proposed action or alternatives for the bi-state sage grouse project will not cause adverse health, social, or environmental effects that would disproportionately affect minority and low-income populations.

Executive Order 13007 (American Indian Sacred Sites). Directs Federal agencies to accommodate access to and ceremonial use of American Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. Under the proposed action and alternatives the agencies will continue to accommodate access to and ceremonial use of American Indian sacred sites by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites.

Executive Order 13186 (Migratory Birds). Directs Federal agencies taking actions having or likely to have a negative impact on migratory bird populations to work with the USFWS to develop an agreement to conserve those birds. Because of the programmatic nature of the proposed action and alternatives, there will be no negative impacts on migratory bird populations. The agencies will continue to work with the USFWS to develop an agreement to conserve those birds.

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Glossary

Active lek ~ A lek in which two or more males are detected for 2 or more years within a 5-year period.

Anthropogenic disturbance ~ Human-created features within 4.7 miles of leks that include but are not limited to paved highways, graded gravel roads, transmission lines, substations, oil and gas wells, geothermal wells and associated facilities, pipelines, landfills, agricultural conversion, homes, and mines.

Best available science ~ The order of preference is generally peer-reviewed publications, technical reports, dissertations and theses, gray literature, and finally, expert opinion.

Connective areas ~ Areas of unsuitable habitat that fragment or separate suitable habitat areas, both within and between Population Management Units (PMUs). These connective areas are identified because they are located where connections between suitable habitats are most important and because they often contain habitats unsuitable to sage-grouse and may prevent or inhibit movement across the landscape. Examples of unsuitable habitats include: agricultural and urbanized areas, and areas with naturally occurring and expanding pinyon–juniper forest. Connective areas represent areas that habitat management could focus on improving suitability, minimizing fragmentation, and improving opportunities for sage-grouse movement, thus increasing the connections between suitable habitats.

Critical disturbance period ~ Period during which disturbance is most damaging to productivity or survival; specifically, March 1 through June 30.

Desired condition ~ Description of specific social, economic, and/or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed, described in terms that are specific enough to allow progress toward their achievement to be determined, but do not include completion dates.

Diffuse disturbance ~ Pressure is exerted over broad spatial or temporal scales.

Discrete disturbance ~ Having a distinct measureable impact in space and time.

Discretionary ~ Action is not legally mandated and can be influenced by agency's judgment or preference.

Distinct population segment (DPS) ~ A vertebrate population or groups of populations that is discrete from other populations of the species and significant in relation to the entire species.

Expert opinion ~ In the absence of non-contradictory, peer-reviewed, context-specific research, the lead biologist may use expert opinion. Experts are people that have contributed to the best available science on the resource in questions, agency designees for the resource, and other biologists/managers with field experience managing the resource.

Goal ~ A broad statement of intent, other than desired conditions, usually related to process or interaction with the public. Goals are expressed in broad, general terms, but do not include completion dates.

Guideline ~ A constraint on project or activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met (36 CFR section 219.15(d)(3)). Guidelines are established to help achieve or maintain desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

Long-term negative impact ~ An impact that disrupts birds for a season or more, or an impact that precludes a season's activity.

Major disturbance ~ An impact that disrupts the birds and is likely to cause a negative impact (e.g., direct mortality from vehicles traffic, noise above 55 decibels, continual traffic).

Minor disturbance ~ An impact that disrupts birds, but is unlikely to cause a negative impact (e.g., occasional flushing from occasional vehicle travel between 10am and 5pm).

Mitigation ~ Includes actions that: (1) Avoiding the impact altogether by not taking a certain action or parts of an action; (2) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (3) rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (4) reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; or (5) compensating for the impact by replacing or providing substitute resources or environments.

Negative impact ~ An action that degrades/reduces the condition or distribution of habitat, the bird's productivity or survival, or the bird's abundance or distribution.

Neutral impact ~ An action that does not change the condition or distribution of habitat, the bird's productivity or survival, or the bird's abundance or distribution.

Non-discretionary ~ Action where agency is legally mandated to act as part of required duties without exercise of personal judgment or preference.

Objective ~ An objective is a concise, measureable, and time-specific statement of a desired rate of progress toward a desired condition or conditions. Objectives should be based on reasonably foreseeable budgets.

Pending active lek ~ Where 2 or more males observed only once in the last 5 years.

Positive impact ~ An action that improves/increases the condition of habitat, the bird's productivity or survival, or the bird's occupancy or distribution.

Regulatory mechanism ~ Also known sometimes known as "management direction", a regulatory mechanism refers to Forest Plan standards and guidelines that define the sidebars within which the Forest, or BLM will need to work when implement or authorizing projects. They can include limitations of time frames, locations, noise level to minimize disturbance. They can also include thresholds or limits on the extent or amount of work that can be completed in habitat or to improve habitat.

Short-term impact ~ An impact lasting for a portion of a season that will disrupt, but not preclude, that season's activity.

Standard ~ A mandatory constraint on project and activity decision making, established to help achieve or maintain the desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements.

Tall structures ~ A wide array of infrastructure (e.g., poles that support lights, telephone and electrical distribution, communication towers, meteorological towers, and high-tension transmission towers) that have the potential to disrupt lekking or nesting birds by creating new perching/nesting opportunities and/or decreasing the use of an area. A determination as to whether something is considered a tall structure would be based on local conditions such as vegetation or topography.

Appendix A: Bi-state Sage Grouse Interim Guidance and Management Protection

This appendix is in three parts:

A1: Interim Conservation Recommendations for the Greater Sage-grouse and Its Habitat, Forest Service Regions 1, 2, and 4

A2: BLM Bi-state Distinct Population Segment of Greater Sage-grouse Interim Management Policies and Procedures

A3: The Humboldt-Toiyabe National Forest Summary of Current Direction and Best Management Practices for the Protection of the Bi-state Sage Grouse

A1: Interim Conservation Recommendations for the Greater Sage-grouse and Its Habitat, Forest Service Regions 1, 2, and 4

Application of Recommendations

In March 2010, the U.S. Fish and Wildlife Service (USDI FWS) published its petition decision for the greater sage-grouse (hereinafter sage grouse) as “Warranted but Precluded” for listing under the Endangered Species Act (75 FR 13910–14014; March 23, 2010). The USFWS identified habitat loss and fragmentation from wildfire, invasive plants, energy and infrastructure development, urbanization, and agricultural conversion as the primary threats to the species throughout its range. Inadequacy of regulatory mechanisms and conservation measures in state and Federal land management plans was also identified as one of the major factors in the USFWS’s finding on sage grouse. The Forest Service is engaged in a planning process, which includes NEPA disclosure and public input, to determine whether to amend 20 LRMPs to incorporate sage grouse conservation measures, with a target decision date of September 2014. The goals of this planning process are: to reduce risks to sage grouse and its habitat; maintain ecosystems on which sage grouse depends and to conserve habitat necessary to sustain sage grouse populations to an extent that precludes the need for its listing under the Endangered Species Act.

The purpose of these recommendations is to promote conservation of sustainable sage grouse populations and their habitats by identifying information sources and considerations that should be included in project analysis and decision making taking place before the plan amendment process can be completed. The recommendations incorporate the following principles to protect and conserve sage grouse habitat:

- 1) Protect remaining expanses of unfragmented habitats;
- 2) Minimize further loss of fragmented habitat; and
- 3) Enhance and restore habitat conditions to meet sage grouse life history needs.

These recommendations supplement the recommendations for sage grouse contained in the Chief’s letter to Regional Foresters in regions 1, 2, 4, 5 and 6 for sage grouse and sagebrush conservation (July 1, 2010)¹⁰. Another goal is to enhance consistency in management of activities on NFS land with the Bureau of Land Management (BLM) Instructional Memorandum (IM) 2012-043: Greater Sage-grouse Interim

¹⁰ USDA Forest Service. 2010. Sage grouse and Sagebrush Conservation. Letter to Regional Foresters, (R-1, R-2, R-4, R-5, and R-6) from the Chief. File Code 2670. USDA, Forest Service, Wash. D.C. 2pp.

Management Policies and Procedures (December 22, 2011). Maintaining and restoring high quality habitat for sage grouse is consistent with the Multiple Use Sustained Yield Act of 1960 and the National Forest Management Act (1976). Development of these recommendations considered the BLM IM and use existing direction in Forest Service Manuals and Handbooks and laws and regulations applicable to the National Forest System.

These recommendations apply only to 20 Forest Service units involved in the LRMP amendment process (identified in appendix 1) and are applicable until interim directives are adopted or until the amendment for the LRMP unit is completed (77 FR 12792; March 2, 2012).

These recommendations apply to proposed Forest Service actions in sage grouse habitat. For the purposes of these recommendations, sage grouse habitat is defined as suitable and occupied sage grouse habitats, consisting of preliminary priority habitat (PPH) and preliminary general habitat (PGH). PPH is comprised of areas identified as having the highest conservation value for maintaining sustainable sage grouse populations. These areas include breeding, late brood-rearing and winter concentration areas. PGH is comprised of areas of occupied seasonal or year-round habitat outside of priority habitat. The Forest Service will work with the BLM and various states to review and validate PPH and PGH maps as they apply to national forest system land, to ensure that all appropriate sage grouse habitats that are seasonally important to sage grouse on local national forest system units are accurately identified.

Sage grouse PPH and PGH data and maps have been developed through a collaborative effort between the BLM and the respective state wildlife agencies. These maps were developed using the best available data, but may change as new information becomes available. Such changes will be coordinated with the state wildlife agencies and USFWS, so that the resulting delineation of PPH and PGH is as accurate as possible. In those instances where the BLM or Forest Service, USFWS, or state wildlife agencies have not completed this delineation, the 75% Breeding Bird Density maps (Doherty et al. 2010¹¹) may be used to identify sage grouse habitat on national forest system land. The Forest Service will work collaboratively with BLM, the states, and USFWS to establish the process for updating maps to include the latest PPH and PGH delineations for each state. Forest Service staff may access the PPH and PGH data from BLM, or through the respective state wildlife agencies. The identification of sage grouse habitat should be based upon current maps and inventories at the time decisions are made.

These recommendations do not apply to the Gunnison sage-grouse (*Centrocercus minimus*), bi-state distinct population segment (DPS) of greater sage-grouse in California and Nevada, and the Washington State DPS of greater sage-grouse, or their habitat. The bi-state (greater sage-grouse) population is subject to a separate listing decision under the Endangered Species Act (ESA) that includes lands within the Humboldt-Toiyabe and Inyo National Forests, and land under BLM administration, within the State of California and Nevada. A separate planning effort is underway to provide conservation guidance for the bi-state DPS. The Washington State DPS does not have sage grouse habitat on national forest system lands.

¹¹ Doherty, K. E., J.D. Tack, J.S. Evans and D. E. Naugle. 2010. Mapping breeding densities of sage-grouse. Sage-grouse: A tool for range-wide conservation planning. BLM Completion Report: Interagency Agreement # L10PG00911.

All Proposed Actions

(FSM 2600 - Wildlife, Fish, and Sensitive Plant Habitat Management; 2610 - Cooperative Relations; 2620 - Habitat Planning and Evaluation)

- Greater sage-grouse is a Regional Forester's designated sensitive species for all Regions subject to these recommendations. All Forest Service units where these recommendations apply are required to evaluate the potential effects of proposed actions on sensitive species in biological evaluations (FSM 2672.4) for environmental analyses on all proposed Forest Service actions.
- When conducting environmental analyses on proposals affecting sage grouse habitat, document (1) short- and long-term objectives and (2) direct, indirect, and cumulative effects relative to sage grouse and its habitat. Evaluate proposed actions in sage grouse habitat in a landscape-scale context to address habitat fragmentation, effective patch size, invasive species presence, and protection of intact sagebrush communities.
- Assure that sage grouse habitats on national forest system lands are maintained or enhanced in accordance with goals and objectives and management guidance in relevant LRMPs and the principles established in these recommendations for so long as they remain in effect.
- Evaluate habitats when they are seasonally relevant for sage grouse. Unless there is contrary site specific information, in general, these dates are associated with major life history requisites:
 - o Winter: 11/15 – 3/15
 - o Breeding: 3/1 – 5/15
 - o Nesting/Early Brood-rearing: 3/15 – 6/30
 - o Late Brood-rearing: 7/1 – 9/30
- Incorporate measures to promote the maintenance of large intact sagebrush communities.
- Incorporate measures to limit the expansion or dominance of invasive species in sage grouse habitats.
- Include clear objectives to benefit sage grouse habitat and vegetation conditions in new activity plans and/or project plans. Base vegetation objectives on: (1) native shrub reference states as shown in the State and Transition Model outlined in the applicable Ecological Site Description (ESD) or similar information, where available; (2) published scientific habitat recommendations for specific areas; and (3) local sage grouse working group recommendations.
- Complete habitat inventories/assessments using the Sage Grouse Habitat Assessment Framework (Stiver et al. 2010) in a timely manner so that data are available for consideration in environmental analyses.
- Use integrated approaches to planning, funding, and implementing vegetation and habitat management projects to benefit sagebrush and sage grouse habitats.
- Maintain, enhance and restore sage grouse habitats, populations and connectivity. Give priority to areas determined to have important sage grouse populations, breeding sites or important seasonal habitats, such as areas identified in the Wyoming Core Area Strategy, state-led and local working group sage grouse plans, conservation agreements, and Forest Plans.

- Collaborate with the USFWS, States, BLM, NRCS and other agencies and landowners to promote consistent management of sagebrush and sage grouse habitats on adjoining lands
- Support and participate in state-wide and local sage grouse working groups for the conservation of sagebrush and sage grouse habitats.
- Work with authorized permittees and lessees to minimize habitat loss, fragmentation, and direct and indirect effects to sage grouse and sage grouse habitat, where adverse effects are occurring or expected to occur.
- National forest system units retain the discretion to not move forward with an action, or to defer making a final decision, until the completion of the LRMP amendment process described in the National Sage-grouse Planning Strategy for the affected area.
- Determine, in coordination with the respective state wildlife agency, whether a proposal that may affect sage grouse or sage grouse habitats would likely have more than minor adverse effects to sage grouse or sage grouse habitat.

Additional Recommendations for Specific Resource Programs for Proposed Actions

Integrated Vegetation Management (FSM 2000-2900 - National Forest Resource Management)

Proposed Authorizations/Activities

- Coordinate, plan, design, and implement vegetation treatments (e.g., pinyon/juniper removal, fuels treatments, green stripping) and associated effectiveness monitoring using an interdisciplinary approach between wildlife, range, fuels management, emergency stabilization, and burned area rehabilitation programs.
- When designing vegetation treatments, consider FSM 2070, Vegetation Ecology, Ecological Site Descriptions (ESDs) assessment and monitoring protocols, and relevant literature (WAFWA 2009¹²)
- Enhance the native sagebrush community, including the native shrub reference state in the State and Transition Model, with appropriate shrub, grass, and forb composition identified in the applicable ESD, where available.
- Pursue short-term objectives that include maintaining soil stability, hydrologic function of the disturbed site so resilient plant communities can be established.
- Pursue a long-term objective to maintain resilient native plant communities consistent with expected disturbance cycles. Choose native plant species in accordance with FSM 2070 Vegetation Ecology and relevant ESDs or similar information, where available, to revegetate sites. The Forest Service Native Plant Materials Policy (FSM 2070) provides guidance on the use of native plants in revegetation projects on national forest system lands. If currently available supplies are limited, use the materials that provide the greatest benefit for sage grouse. When

¹² Western Association of Fish and Wildlife Agencies (WAFWA). 2009. Prescribed Fire as a Management Tool in Xeric Sagebrush Ecosystems: Is it Worth the Risk to sage-grouse? Sage-and Columbian Sharp-tailed Grouse Tech. Comm. White Paper, WAFWA, 22 pp.

necessary, analyze the use of nonnative species that do not impede long-term re-establishment goals of native plant communities and sage grouse habitat.

- Meet vegetation management objectives that have been set for seeding projects prior to returning the area to authorized uses as prescribed in current Forest or Grassland Plan direction. When treating invasive species, utilize an Integrated Pest Management approach. The Pesticide Use Management and Coordination Policy (FSM 2150) provides agency policy and guidance on the use of pesticides as part of an integrated pest management approach. Additional guidance is also provided in the Pesticide Use Management Handbook (FSH 2109).
- Where pinyon and juniper are encroaching on sagebrush plant communities, design treatments to increase cover of sagebrush and/or understory to (1) improve habitat for sage grouse; and (2) minimize avian predator perches and predation opportunities on sage grouse.
- Improve degraded sage grouse habitats that have become encroached upon by shrubland or woodland species and seek opportunities to restore and expand habitat.
- Identify opportunities for prescribed fire or mechanical treatments only when these management actions are identified as the most appropriate tools to meet fuels/vegetation management objectives, short and long term sage grouse conservation objectives, and the potential for establishment, expansion or dominance of invasive species is minimal. Vegetation treatments should be part of a larger scale strategy to protect and restore sage grouse habitats.
- Before using prescribed fire, analyze the potential expansion or dominance of invasive species as a result of this treatment (See FSM 2900 p.22 #8).

Wildfire Suppression (5130 – Wildland Fire Suppression)

- Threatened, endangered, and sensitive species (including sage grouse) and associated habitats will continue to be a high natural resource priority for National and Geographic Multi-Agency Coordination Groups, whose purpose is to manage and prioritize wildland fire operations on a national and geographic area scope when fire management resource shortages are probable.
- Sage grouse protection and habitat enhancement is a high natural resource priority for the fire management program. A full range of fire management activities and options will be utilized to sustain healthy ecosystems (including sage grouse habitats) and minimize habitat loss within acceptable risk levels to firefighters and the public. Local agency administrators and resource advisors will convey protection priorities to incident commanders and identify areas appropriate for the use of fire retardant, bulldozers, and other suppression resources.
- So as to minimize resource damage, National Forests and Grasslands should identify local personnel qualified to serve as resource advisors, preferably fire-line qualified, capable of advising fire operations in sagebrush habitats.
- Appropriate local unit resource specialist(s) or designated resource advisor will coordinate with unit fire management personnel to identify important sage grouse areas (e.g. leks, winter concentration areas, or brood-rearing areas) and develop options and strategies for their protection during wildfire incidents and management response.

Post Fire Restoration (FSM 2523 - Emergency Stabilization – Burned-Area Emergency Response [BAER])

- Conduct BAER consistent with WO Interim Directive 2523 to identify imminent post-wildfire threats to human life and safety, property and critical natural or cultural resources and take immediate action to manage unacceptable risks.
- Assess the need for implementation of burned area rehabilitation in sagebrush habitats relative to habitat value for sage grouse. For example, burns less than 500 acres may be appropriate for BAER if habitat impacted is near an active, well-populated lek.
- In BAER plans, prioritize re-vegetation projects to (1) maintain and enhance unburned intact sagebrush habitat when at risk from adjacent threats; (2) stabilize soils; (3) reestablish hydrologic function; (4) maintain and enhance biological integrity; (5) promote plant resiliency; (6) limit expansion or dominance of invasive species; and (7) reestablish native species.
- Increase post-fire activities through the use of integrated funding opportunities with other resource programs and partners.
- In areas burned within the past 3 years, ensure that effectiveness monitoring outlined in post-fire stabilization and rehabilitation plans continues and is reported. Post-fire stabilization and rehabilitation monitoring should continue until post-fire objectives are met.

Recreation and Non-Recreation (Roads, Powerlines, Pipelines, Non-mineral Energy Development) Special Use Authorizations (SUAs)

Recreation Special Use Authorizations (FSM 2700 - Special Uses Management)

Applications

- Work with applicants to minimize adverse impacts to sage grouse and sage grouse habitat.
- Where a Forest/Grassland line officer determines that it is appropriate to authorize a recreation use in sage grouse habitat, document the reasons for the determination and include measures to be implemented to minimize adverse impacts to sage grouse habitat.

Non-Recreation Special Uses (e.g., Roads, Power Lines, Pipelines, Non-mineral Energy Development) (Special Uses Handbook - FSH 2709.11)

Existing Uses

- Where sage grouse conservation opportunities exist, the authorized officer should work with the holders to include provisions in the operating plan to avoid or minimize impacts on sage grouse habitat from operation and maintenance of the authorized use.
- When amending an authorization or reauthorizing a use, assess the impacts of ongoing use on sage grouse habitat and avoid or minimize such impacts to the extent practicable.

Proposed Uses

- Within 3 kilometers of sage grouse habitat, avoid authorizing placement of overhead powerlines (e.g. by requiring that power lines be buried, where feasible) or other tall structures that provide perch sites for raptors.

- In consultation with the state wildlife agency, determine whether the proposed use likely would likely more than minor adverse effects to sage grouse and sage grouse habitat.
- If the proposed use likely would have more than minor adverse effects on sage grouse habitat:
 - o Consider feasible alternatives for siting the use outside of sage grouse habitat.
 - o Identify technically feasible best management practices in terms of siting (e.g., burying powerlines) that may be implemented, to avoid or minimize impacts on sage grouse or sage grouse habitats.
 - o In consultation with the state wildlife agency, develop mitigation measures for construction, maintenance, operation, and reclamation of the proposed use that minimize impacts to sage grouse habitat.

Minerals Management

Leasable Minerals (FSM 2820 - Mineral Leases, Permits, and Licenses)

Proposed Leasing (i.e., a lease has not been issued and, therefore; no valid existing rights)

- Required environmental analyses for leasing in areas affecting sage grouse habitat shall adhere to the applicable policies and procedures outlined in the “All Proposed Actions” section of this ID.
- In that BLM oftentimes utilizes Forest Service environmental analyses to support its independent leasing decisions, Forest Service analyses and associated decisions/recommendations should be consistent with the leasable mineral guidance contained in BLM Instructional Memorandum No. 2012-043.
- Exercise any authority which the Forest Service has with respect to the authorization of lease issuance for NFS lands to avoid or minimize adverse effects to sage grouse and sage grouse habitat.

Forest Service Authorizations Relating to Existing Leases (i.e., the lease has been issued and valid existing rights have been established)

- For existing Forest Service authorizations (i.e., a permit such as a special use permit, a road use permit or a surface use plan of operations which has been issued) in areas where sage grouse conservation opportunities exist, the Forest/Grassland should work in cooperation with the operator to avoid and minimize effects on sage grouse and sage grouse habitat.
- For proposed/pending Forest Service authorizations relating to an existing lease (i.e., a proposed permit such as a special use permit, a road use permit or a surface use plan of operations) in areas where sage grouse conservation opportunities exist, require measures to avoid or minimize adverse effects to sage grouse and sage grouse habitat.
- Exercise any authority which the Forest Service has with respect to the conduct of operations on an existing leasehold to avoid or minimize adverse effects to sage grouse and sage grouse habitat.

Locatable Minerals (FSM 2810 - Mining Claims)

Ongoing Authorizations/Activities (i.e., existing operations conducted under a Notice of Intent to Operate or a Plan of Operations)

- When ongoing operations are causing or will likely cause significant disturbance of surface resources not authorized by an approved plan of operations, units should utilize the authority provided by 36 CFR 228.4(a)(4) to require an operator to submit a plan of operations for approval; or, if appropriate, the authority provided by 36 CFR 228.4(d) to require an operator to supplement an approved plan of operations.
- If ongoing operations authorized by a plan of operations are causing unforeseen significant disturbance of surface resources, units should exercise the authority provided in 36 C.F.R. 228.4(e) concerning modifying the plan of operations.

Proposed Authorizations/Activities (i.e., new Notices of Intent to Operate or Plans of Operation)

- Ensure that new notices of intent adequately describe proposed operations to assess whether or not significant disturbance of National Forest System surface resources, including sage grouse and sage grouse habitat, is likely. When the authorized officer determines that the operations described by a notice of intent to operate are likely to cause significant disturbance of National Forest System surface resources, require the submission of a proposed plan of operations and advise the operator that the operations cannot be conducted until the plan of operations is approved.
- Require that new plans of operation include measures to avoid or minimize adverse effects to sage grouse and sage grouse habitat.

Salable Minerals (FSM 2850 - Mineral Materials)

Existing Authorizations (i.e., a contract, prospecting permit or permit has been issued leading to the creation of valid existing rights)

- When operating plans have been approved, work with the holders of the authorization to develop reasonable conditions such as siting/design of infrastructure, timing of operations, or reclamation standards that will avoid or minimize effects to sage grouse and sage grouse habitat.
- When proposed operating plans are submitted, require reasonable conditions that will avoid or minimize effects to sage grouse and sage grouse habitat.

Proposed Authorizations

- Require that authorizations provide for the development of operating plans which include measures to avoid or minimize adverse effects to sage grouse and sage grouse habitat.

Grazing Administration and Rangeland Management (FSM 2200 – Rangeland Management)

Ongoing Allotment Administration

- When developing drought contingency plans, evaluate the season of use, stocking rate, and pasture rotation schedules and adjust in accordance with permit terms and applicable regulations to promote retention of herbaceous composition and structure to meet sage grouse habitat requisites.

- Continue to coordinate with other Federal agencies, state agencies, and non-Federal partners. Implement the 2010 Memorandum of Understanding between the BLM, NRCS, FWS, and Forest Service for enhancing sage grouse habitat through grazing practices.
- Conduct effectiveness monitoring of grazing activities to ensure that current management is meeting sage grouse habitat objectives as described in Allotment Management Plans.

Proposed Authorizations/Activities

- When several small or isolated allotments occur within a watershed or delineated geographic area, strive to evaluate all of the allotments together. Pursue opportunities to incorporate multiple allotments under a single management plan/strategy where incorporation would result in enhancing sage grouse or sage grouse habitat.
- Coordinate BMPs and vegetation objectives with BLM, NRCS and adjacent private land owners for consistent application across all jurisdictions as described in NRCS's National Sage Grouse Initiative.
- When revising allotment or grazing management through an environmental analysis, utilize an ID team, as practicable, to identify reasonable sage grouse habitat objectives and evaluate a range of reasonable alternatives to accomplish those objectives.
- Incorporate management objectives that promote the growth and persistence of native shrubs, grasses, and forbs beneficial to sage grouse. Utilize Ecological Site Descriptions or other State and Transition Models, where they are available, to develop realistic objectives.

Wild Horse and Burro Management (FSM 2260 - Wild Free-Roaming Horses and Burros)

- Manage wild horse and burro population levels within established appropriate management levels (AML).
- Wild horse and burro territories within sage grouse habitat should receive priority for removal of excess animals, as appropriate. This includes those territories where AML has been set at zero and animals are present.

Fences (FSM 2240 – Range Improvements)

- Evaluate the need for proposed fences, especially those within 1.25 miles¹³ of leks that have been active within the past 5 years and in movement corridors between leks and roost locations. Apply mitigation (e.g., proper siting, marking, post and pole construction) to avoid or minimize potential impacts to sage grouse as determined in cooperation with the respective state wildlife agency.
- Identify and remove fences not needed for resource management, particularly those within 1.25 miles of leks.
- To improve visibility, mark existing fences within 1.25 miles³ of a lek that have been identified as a collision risk. Fences posing higher risks to sage grouse include fences:
 - On flat topography;
 - Where spans exceed 12 feet between T-posts;

¹³ Stevens, B.S. 2011. Impacts of Fences on sage-grouse in Idaho: Collision, Mitigation, and Spatial Ecology (Master's Thesis). University of Idaho, Moscow.

- Without wooden posts; or
- Where fence densities exceed 1.6 miles of fence per section (640 acres).

Water Developments (applicable to all programs) (FSM 2240 – Range Improvements)

Proposed Authorizations/Activities

- Include escape ramps and a mechanism, such as a float or shut-off valve, to control the flow of water in tanks and troughs.
- Carefully consider available design criteria or treatments (e.g., *Bacillus thuriengensis*) for water development structures in a manner that minimizes potential for production of mosquitoes that may carry West Nile virus, where the disease is a known mortality factor.

Travel Management (FSM 7700)

Ongoing Authorizations/Activities

- Follow existing guidance in Forest Service travel management plans implemented through the Motor Vehicle Use Map (MVUM). In annual reviews and updates of MVUMs, consider effects to sage grouse and sage grouse habitat.
- Consider using emergency closures of designated routes if use disturbs important sage grouse habitats (i.e., breeding, brood-rearing, winter).

Realty Actions (e.g., Land Exchanges, Transfers, and Sales) (FSM 5400 - Landownership)

It is Forest Service policy that where a Forest or Grassland determines that it is appropriate to implement a public land disposal action, the following process must be followed:

- The Forest Service will document the reasons for its determination and implement measures to minimize impacts to sage grouse habitat.

Vegetation and Resource Monitoring

- Monitor activities and projects using the BLM core indicators and protocols (e.g., BLM Assessment, Inventory, and Monitoring Strategy) to ensure that the objectives are being met. Supplement data collection, as necessary, with other programmatic information for the site to demonstrate that objectives are being met.
- Until further direction is provided, and within the range of the sage grouse, collect and report the following for inclusion in the appropriate Forest Service database (e.g., WFRP, INFRA, etc.) which will be reported to the FWS as requested:
 - Miles, acres, and/or number of structures (e.g., fences, water developments, well pads, gravel pits, roads) removed, installed, relocated, decommissioned, modified, or mitigated to benefit sage grouse and sage grouse habitat;
 - Number of Forest Service use authorizations issued or deferred and the associated acres where changes in management were implemented to benefit sage grouse and sage grouse habitat;
 - Acres where the Forest Service implemented changes in use in order to improve sage grouse habitat in cooperation with other Federal or state agencies;

- Acres of sage grouse habitat altered by wildland fire, acres treated after fire, and acres not treated after fire that were in need of treatment;
- Acres of sage grouse habitat altered by fuels treatment projects and how those treatments affected sage grouse habitat;
- Acres of vegetation treated to benefit sage grouse habitat; and number of allotments assessed for land health standards, with associated acres, according to table 7A of the Rangeland Inventory, Evaluation, and Monitoring Report.

Forest/Grassland Land and Resource Management Plans Proposed for Revision or Amendment

- Ashley (UT)
- Beaverhead-Deerlodge (MT)
- Boise (ID)
- Bridger-Teton (WY)
- Caribou (ID)
- Challis (ID)
- Curlew (ID)
- Dixie (UT)
- Fishlake (UT)
- Humboldt (NV)
- Manti-LaSal (UT)
- Medicine-Bow
- Routt
- Salmon (ID)
- Sawtooth (ID)
- Targhee (ID)
- Thunder Basin
- Toiyabe (NV)
- Uinta (UT)
- Wasatch-Cache (UT)

A2: BLM Bi-state Distinct Population Segment of Greater Sage-grouse Interim Management Policies and Procedures

Note: This document has been scanned in its original format and begins on the following page.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

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December 3, 2012



In Reply Refer To:
1110 (170/200/300/400) P

EMS TRANSMISSION 12/05/12
Instruction Memorandum: No. NV-2012-061
Expires: 09/30/2013

To: Carson District and Tonopah Field Office
From: State Director
Subject: Bi-State Distinct Population Segment of Greater Sage-Grouse Interim Management Policies and Procedures

Program Areas: All Programs.

Purpose: This Instruction Memorandum (IM) provides interim conservation policies and procedures to Bureau of Land Management (BLM) field officials to be applied to ongoing and proposed authorizations and activities that affect the Bi-state Distinct Population Segment (DPS) of Greater Sage-Grouse (*Centrocercus urophasianus*) (hereafter referred to as the Bi-State DPS) and its habitat. This direction ensures that interim conservation policies and procedures are implemented when the Carson District or Tonopah Field Office authorizes or carries out activities on public land during the current revision of the Districts' Resource Management Plans (RMP). These revisions will develop and decide how to best incorporate long-term conservation measures for Bi-State DPS on lands within the Carson City District and Tonopah Field Office. This interim direction promotes sustainable Bi-State DPS populations and conservation of its habitat while not foreclosing any future options before the planning process can be completed. The goal of amending or revising BLM Land Use Plans with Bi-State DPS conservation direction is to ensure appropriate regulatory mechanisms are in place to ensure the conservation of this DPS.

This IM supplements the direction for Bi-State DPS contained in the BLM Washington Office (WO) IM 2010-071 (*Gunnison and Greater Sage-Grouse Management Considerations for Energy Development*) and is consistent with WO-IM-2011-138 (*Sage-Grouse Conservation Related to Wildland Fire and Fuels Management*). The Bi-state DPS habitat managed by the Carson City District and Tonopah Field Office in California and Nevada is specifically covered by this IM and shown on the attached Bi-State Sage-Grouse Preliminary Priority Habitat Map.

The 2010 U.S. Fish and Wildlife Service (FWS) findings on petitions to list the Bi-State DPS (petition decision) (75 FR 13910 – 14014; 03/23/2010) identified habitat conversion and fragmentation from wildfire, invasive plants, energy and infrastructure development, urbanization, and agricultural conversion as the primary threats to the species throughout its range. Through this IM, the BLM is providing interim conservation policies and procedures across multiple programs while the BLM conducts revisions to RMPs. Maintaining and restoring high quality habitat for the Bi-State DPS is consistent with the BLM multiple-use and sustained-yield management direction of the Federal Land Policy and Management Act (FLPMA).

Policy/Action: As summarized in the BLM's National Strategy, emphasis for protecting and managing habitats of this Greater Sage-Grouse Distinct Bi-State Population Segment incorporates the following principles:

- 1) Protection of intact habitats;
- 2) Minimization of habitat loss and fragmentation; and
- 3) Management of habitats to maintain, enhance, or restore conditions that meet Bi-State DPS life history needs.

To provide guidance to field offices to promote these principles, this IM transmits policies and procedures that apply to ongoing and proposed BLM actions, including use authorizations, within Preliminary Priority Habitat (PPH) for the Bi-State DPS. PPH comprises areas that have been identified as having the highest conservation value to maintaining a sustainable Bi-State DPS. These areas would include occupied seasonal or year-round habitat in addition to breeding, late brood-rearing, and winter concentration areas. These areas have been identified by the CA and NV BLM in coordination with respective state wildlife agencies as the habitat crosses the state line (see attached map).

No Preliminary General Habitat has been identified for the Bi-State DPS. This is due to the overall lack of high quality sage-grouse habitat and scarcity of telemetry information to distinguish between priority and general habitat.

The policies and procedures identified in this IM are designed to minimize habitat loss in and will advance the BLM's objectives to maintain or restore habitat to desired conditions by ensuring that field offices analyze and document impacts to PPH and coordinate with the State and the Fish and Wildlife Service when issuing the decisions described below. These policies and procedures are in addition to, and do not replace, more protective measures in existing LUPs. The direction in this IM is time-limited for the planning area where the Distinct Bi-State Population Segment of Greater Sage-Grouse occurs. The conservation policies and procedures described in this IM will be applied until the appropriate regulatory mechanisms are in place to ensure the conservation of this DPS.

Preliminary priority habitat (PPH) data and maps for the Bi-State Distinct Population Segment were developed through a collaborative effort by the Bi-State DPS Technical Advisory Committee (TAC) that consisted of representatives from CA and NV BLM, USFS, USGS, USFWS and the respective state wildlife agencies. Copies of the map will be stored at the BLM National Operations Center, USGS Western Ecological Research Center, California Department of Fish and Game (CDFG), and Nevada Department of Wildlife (NDOW). The PPH areas were derived from the combination of modeling resource selection functions and calculating utilization distributions from sage-grouse telemetry data collected over a 7-year period. The

methods to produce these maps are scientifically supported and used the best available information. The maps will be updated as new data becomes available. Such changes would be science-based and coordinated with the TAC for the Bi-State so that the resulting delineation of PPH provides for sustainable populations. The TAC will establish the process for updating files to include the latest PPH delineations for each state. This information will assist in applying the interim conservation policies and procedures identified below. As LUPs are amended or revised, the BLM District or Field Offices will be responsible for coordinating with NDOW and CDFG to use the newest delineation of habitat. BLM staff may access the data, using the following link: [\\blm\dfs\loc\EGIS\NV\GIS_Work\Multi-District_Project\RMP\BiState_RMP_Amend](#). Non-BLM personnel may access these maps through NDOW. Habitat in California but managed by the Carson City District will be maintained at the Carson City Field Office.

The BLM will continue to work with its partners including the US Forest Service, Western Association of Fish and Wildlife Agencies (WAFWA), FWS, U.S. Geological Survey (USGS), Natural Resource Conservation Service (NRCS), and the Farm Services Agency (FSA) within the framework of the Sagebrush Memorandum of Understanding (2008) and the WAFWA *Greater Sage-Grouse Comprehensive Conservation Strategy* (2006).

Interim Conservation Policies and Procedures for “Preliminary Priority Habitat”

Through these policies and procedures, BLM seeks to maintain, enhance, or restore conditions for the Bi-State DPS and its habitat.

Integrated Vegetation Management

Proposed Authorizations/Activities

- Evaluate land treatments (including Bi-State population habitat treatments) in a landscape-scale context to address habitat fragmentation, effective patch size, invasive species presence, and protection of intact sagebrush communities. Coordinate land treatments with adjacent land owners to avoid any unintended negative landscape effects to Bi-State DPS.
- When designing vegetation treatments, reference Ecological Site Descriptions (ESD), where available; the BLM *Integrated Vegetation Management Handbook* (H-1740-2); and a white paper developed by the Western Association of Fish and Wildlife Agencies entitled, *Prescribed Fire as a Management Tool in Xeric Sagebrush Ecosystems: Is it Worth the Risk to Sage-Grouse?*
- Coordinate, plan, design, and implement vegetation treatments (e.g., pinyon/juniper removal, fuels treatments, green stripping) and associated effectiveness monitoring between Resources, Fuels Management, Emergency Stabilization, and Burned Area Rehabilitation programs to:
 - Promote the maintenance of large intact sagebrush communities;
 - Limit the expansion or dominance of invasive species, including cheatgrass;
 - Maintain or improve soil site stability, hydrologic function, and biological integrity; and
 - Enhance the native plant community, including the native shrub reference state in the *State and Transition Model*, with appropriate shrub, grass, and forb composition identified in the applicable ESD where available.
- When conducting National Environment Policy Act (NEPA) analysis for vegetation treatments, document your analysis of (1) short- and long-term objectives and (2) direct, indirect, and cumulative effects of treatment types on Bi-State DPS and its habitat.

- Pursue short-term objectives that include maintaining soil stability and hydrologic function of the disturbed site so a resilient plant community can be established.
- Pursue a long-term objective to maintain resilient native shrub-steppe communities. Choose native plant species outlined in ESDs, where available, to revegetate sites. If currently available supplies are limited, use the materials that provide the greatest benefit for Bi-State DPS. When necessary, analyze the use of non-native species that do not impede long-term reestablishment goals of native plant communities and Bi-State DPS habitat.
- Meet vegetation management objectives that have been set for seeding projects prior to returning the area to authorized uses, specifically livestock grazing. This generally takes a minimum of two growing seasons (see Handbook H-1742, *Emergency Fire Rehabilitation Handbook*). When treating invasive species, use the standard operating procedures and best management practices outlined in the *2007 Vegetation Treatments Using Herbicides on BLM Lands in 17 States Environmental Impact Statement* and applicable practices found in its accompanying *Biological Assessment*.
- Where pinyon and/or juniper trees are encroaching on sagebrush plant communities, design treatments to increase cover of sagebrush and/or understory to: (1) improve habitat for Bi-State DPS; and (2) minimize avian predator perches and predation opportunities on Bi-State DPS.
- Implement management actions, where appropriate, to improve degraded Bi-State DPS habitats that have become encroached upon by shrubland or woodland species.
- Identify opportunities for prescribed fire; including where prescribed fire has been identified as the most appropriate tool to meet fuels management objectives and Bi-State DPS conservation objectives, and the potential expansion or dominance of invasive species has been determined to be minimal through an invasive species risk determination for the treatment project (see BLM Manual Section 9015). Before using prescribed fire, field offices must analyze the potential expansion or dominance of invasive species as a result of this treatment. Refer to Western Association of Fish and Wildlife Agencies entitled, *Prescribed Fire as a Management Tool in Xeric Sagebrush Ecosystems: Is it Worth the Risk to Sage-Grouse?*

Wildfire Emergency Stabilization and Burned Area Rehabilitation

Both Existing and Proposed Authorizations/Activities

- In Emergency Stabilization and Burned Area Rehabilitation plans, prioritize re-vegetation projects to (1) maintain and enhance unburned intact sagebrush habitat when at risk from adjacent threats; (2) stabilize soils; (3) reestablish hydrologic function; (4) maintain and enhance biological integrity; (5) promote plant resiliency; (6) limit expansion or dominance of invasive species; and (7) reestablish native species.
- Increase post-fire activities through the use of integrated funding opportunities with other resource programs and partners.
- In areas burned within the past 5 years, ensure that effectiveness monitoring outlined in post-fire stabilization and rehabilitation plans continues and report the results as outlined in WO-IM-2010-195. Post-fire stabilization and rehabilitation monitoring should continue until post-fire objectives are met.

Wildfire Suppression and Fuels Management

Existing Authorizations/Activities

- Threatened, endangered, and sensitive species (including Bi-State DPS) and associated habitats will continue to be a high natural resource priority for National and Geographic

Multi-Agency Coordination Groups, whose purpose is to manage and prioritize wildland fire operations on a national and geographic area scope when fire management resource shortages are probable.

- Bi-State DPS protection and habitat enhancement is a high priority for the fire management program. A full range of fire management activities and options will be utilized to sustain healthy ecosystems (including Bi-State DPS habitats) within acceptable risk levels. Local agency administrators and resource advisors will convey protection priorities to incident commanders.
- Comply with the policies established in WO-IM-2011-138 (Sage-grouse Conservation Related to Wildland Fire and Fuels Management) or successor guidance, regarding suppression operations and fuels management activities.
- Where prescribed fire has been identified as the most appropriate tool to meet fuels management and Bi-State DPS conservation objectives, the potential expansion or dominance of invasive species must be evaluated and determined to be minimal through an invasive species risk determination for the treatment project (see BLM Manual Section 9015).

Rights-of-Way (ROW) (e.g., Renewable Energy Projects, Roads, Powerlines, Pipelines)
Existing Authorized ROW (i.e., permit has been issued and the project may have been constructed)

- Where Bi-State DPS conservation opportunities exist, BLM District and Field offices should work in cooperation with rights-of-way (ROW) holders to conduct maintenance and operation activities, authorized under an approved ROW grant, to avoid and minimize effects on Bi-State DPS and its habitat.
- When renewing or amending ROWs, assess the impacts of ongoing use of the ROW to Bi-State DPS habitat and minimize such impacts to the extent allowed by law.

Pending and Future ROW Applications (i.e., permit application has not been received or has been received and is being processed)

- Conduct pre-application meetings for all new ROW proposals consistent with the ROW regulations (43 CFR 2804.10) and consistent with current renewable energy ROW policy guidance (WO-IM-2011-061, issued February 7, 2011).
- For pending applications, assess the impact of the proposed ROW on Bi-State DPS and its habitat, and implement the following:
 - Ensure that reasonable alternatives for siting the ROW outside of the PPH or within a designated utility/transportation corridor are considered and analyzed in the NEPA document.
 - Identify technically feasible best management practices, conditions, etc. (e.g., siting, burying powerlines) that may be implemented in order to eliminate or minimize impacts.
- For ROWs where the total project disturbance from the ROW and any connected action is less than 1 linear mile, or 2 acres of disturbance, develop mitigation measures related to construction, maintenance, operation, and reclamation activities that, as determined in cooperation with the respective state wildlife agency, would cumulatively maintain or enhance Bi-State DPS habitat.
- For ROW applications where the total project disturbance from the ROW and any connected action is greater than 1 linear mile or 2 acres of disturbance, it is BLM policy

that where a field office determines that it is appropriate to authorize a ROW, the following process must be followed:

- The BLM will document the reasons for its determination and require the ROW holder to implement measures to minimize impacts to Bi-State DPS habitat.
- In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (Refer to WO-IM-2008-204, Off-Site Mitigation). When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of Bi-State DPS and its habitat.
- Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed ROW and mitigation measures would cumulatively maintain or enhance Bi-State DPS habitat, the proposed ROW decision must be forwarded to the Bi-State Technical Working Group. If this group is unable to make a recommendation, the proposed action is elevated to the Executive Oversight Committee. If this group is unable to agree on the appropriate mitigation for the proposed ROW, then the proposed decision must be forwarded to the BLM Nevada State Director for a final decision.
- Field offices retain the discretion to reject or deny a ROW application, where appropriate, or defer making a final decision on an application until the completion of the LUP process described in the *National Greater Sage-Grouse Planning Strategy* for the affected area.

Leasable Minerals (Energy and Non-energy)

Fluid Mineral Leasing (i.e., oil, gas, and geothermal)

It is BLM policy that where a field office determines that it is appropriate to authorize a proposed leasing decision, the following process must be followed:

- The BLM will document the reasons for its determination and require the lessee to implement measures to minimize impacts to Bi-State DPS habitat.
- In addition to considering opportunities for onsite mitigation, the BLM will consider whether it is appropriate to condition the lease with a requirement for offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (refer to WO-IM-2008-204, Off-Site Mitigation).
- Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed lease and mitigation measures would cumulatively maintain or enhance Bi-State DPS habitat, the proposed lease decision must be forwarded to the Bi-State DPS Technical Working Team for their review. If this group is unable to agree on the appropriate mitigation for the proposed lease, then the proposed decision must be forwarded to the EOC, when appropriate, for its review. If the EOC is unable to agree on the appropriate mitigation for the proposed lease, they will coordinate with and brief the BLM State Director for a final decision in absence of consensus.
- Exception: Where drainage is likely or the lands are designated as No Surface Occupancy (NSO) in the existing LUP, the BLM may issue new leases with an NSO stipulation. The NSO stipulation will also have appropriate exception, waiver, and modification criteria. **Note:** A Controlled Surface Use stipulation is not an appropriate substitution for an NSO stipulation.

- Field offices retain the discretion to not move forward with a nomination or defer making a final decision on a leasing decision until the completion of the appropriate LUP for the affected area.
- Authorizations on Existing Leases (i.e., the lease has been issued and valid existing rights have been established)
 - Where Bi-State DPS conservation opportunities exist, work in cooperation with operators to minimize habitat loss, fragmentation, and direct and indirect effects to Bi-State DPS and its habitat.
 - Issue Written Orders of the Authorized Officer (43 CFR 3161.2) requiring reasonable protective measures consistent with the lease terms where necessary to avoid or minimize effects to Bi-State DPS populations and its habitat.
- Proposed Pending Authorizations (i.e., permit application has not been received or has been received and is being processed)

It is BLM policy that where a field office determines that it is appropriate to issue a proposed authorization, the following process must be followed:

 - Where the BLM has not issued a permit for development, design future conditions or restrictions to minimize adverse effects to Bi-State DPS and its habitat (e.g., Best Management Practices (BMP), noise limitations, seasonal restrictions, minimization of habitat fragmentation, improved reclamation standards, proper siting/designing infrastructure, restoring habitat) prior to permit approval. These measures may be in addition to and more protective or restrictive than the stipulations and restrictions identified in approved LUPs, when reasonable (43 CFR 3101.1-2), supported by science, and analyzed through the NEPA process.
 - Consider suspending non-producing leases in instances where mitigation would not adequately protect the integrity of Bi-State DPS habitat until the BLM amends or revises the LUPs. Consistently apply protective measures to split estate lands.
 - In areas where Bi-State DPS populations have been substantially diminished, and where few birds remain, include actions in the authorization (e.g., siting/designing infrastructure, hastened habitat restoration) that will minimize habitat loss and promote restoration of habitat when development activities cease.
 - In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (refer to WO-IM-2008-204, Off-Site Mitigation). When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of Bi-State DPS and its habitat.
 - For geophysical exploration activities, include seasonal timing limitations and BMPs as permit conditions of approval to eliminate or minimize surface-disturbing and disruptive activities within nesting and brood-rearing habitat and winter concentration areas.
 - Ensure authorizations under Onshore Oil and Gas Order No. 7 (Disposal of Produced Water) consider the potential impacts to Bi-State DPS from West Nile virus and develop appropriate mitigation measures.

Grazing Permit/Leases Issuance/Grazing Management

Grazing can have localized adverse effects on Bi-State DPS habitat depending on the condition of the habitat and the grazing practices used. Depending on design and application, grazing practices can also be used as a tool to protect intact sagebrush habitat and increase habitat extent and continuity which is beneficial to Bi-State DPS and its habitat. Given the potential financial constraints in addressing the primary threats identified by the FWS, enhanced management of livestock grazing may be the most cost-effective opportunity in many instances to improve Bi-State DPS habitat on public lands. Utilize the best available science in defining seasonal Bi-State DPS habitat requisites relative to potential impacts of livestock grazing on habitat features (e.g. Connelly et al. 2000, Hagen et al. (2007, Knick and Connelly (eds.) 2010.

To promote grazing practices that will protect PPH and minimize adverse effects on Bi-State DPS and its habitat, the BLM will implement the following:

Existing Authorizations and? Activities

- If periods of drought occur, evaluate the season of use and stocking rate and, adjust through coordination, annual operation plans and billings processes.
- Continue to coordinate with other Federal agencies, state agencies, and non-Federal partners. Leverage funding to implement habitat projects and implement the recent Memorandum of Understanding between the BLM, NRCS, FWS for enhancing PPH through grazing practices.
- Continue to prioritize use, supervision and effectiveness monitoring of grazing activities to ensure compliance with permit conditions and that progress is being made on achieving land health standards.
- Continue to evaluate existing range improvements (e.g., fences, watering facilities) associated with grazing management operations for impacts on Bi-State DPS and its habitat. Where appropriate, modify range structural improvements that are having adverse effects on Bi-State DPS (e.g. fence markers).

Proposed Authorizations/Activities – Permit/Lease Renewal/Issuance

- When several small or isolated allotments occur within a watershed or delineated geographic area, evaluate all of the allotments together. Prioritize this larger geographic area in the context of PPH areas for processing permits/leases for renewal.
- Coordinate BMPs and vegetative objectives with NRCS for consistent application across jurisdictions where the BLM and NRCS have the greatest opportunities to benefit Bi-State DPS, particularly as it applies to the NRCS's National Sage-Grouse Initiative (<http://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/national/programs/farmland/initiative/s/?&cid=steldevb1027671>). See the 2010 Four-Agency MOU signed by the BLM, Forest Service, NRCS and FWS for further guidance in management collaboration.
- Pursue opportunities to incorporate multiple allotments under a single management plan/strategy where incorporation would result in enhancing Bi-State DPS populations or its habitat as determined in coordination with respective state wildlife agency.
- Use the process in WO-IM-2009-007, Process for Evaluating Status of Land Health and Making Determinations of Causal Factors When Land Health Standards Are Not Achieved, to identify appropriate actions where current livestock grazing management has been identified as a causal factor in not meeting Land Health Standards (43 CFR 4180).
- Evaluate progress towards meeting standards that may affect the Bi-State DPS or its habitat prior to authorizing grazing on an allotment that was not achieving land health

- standards in the last renewal cycle, and livestock was a significant causal factor. Where available, use current monitoring data to identify any trends (e.g., progress) toward meeting the standards. Where monitoring data are not available or inadequate to determine whether progress is being made toward achieving Land Health Standards, an interdisciplinary team should be deployed as practicable to conduct a new land health assessment. The NEPA analysis for the permit/lease renewal must address a range of reasonable alternatives including alternatives that improve Bi-State DPS habitat.
- If livestock grazing was the cause of not achieving land health standards that have potential to impact Bi-State DPS or its habitat in the last permit renewal cycle, an interdisciplinary team should be deployed as practicable to conduct a new land health evaluation to determine if the allotment is making progress and if livestock grazing remains a casual factor.
 - Plan and authorize livestock grazing and associated range improvement projects on BLM managed lands in a way that maintains and/or improves Bi-State DPS and its habitat. Analyze through a reasonable range of alternatives any direct, indirect, and cumulative effects of grazing on Bi-State DPS and its habitats through the NEPA process:
 - Incorporate available site information when evaluating existing resource condition and developing resource solutions,
 - Incorporate management practices that will provide for adequate residual plant cover (e.g., residual grass height) and diversity in the understories of sagebrush plant communities as part of viable alternatives. When addressing residual cover and species diversity, refer to the ESD and “*State and Transition Model*,” where they are available, to guide the analysis.
 - Evaluate and implement grazing practices that promote the growth and persistence of native shrubs, grasses, and forbs. Grazing practices include kind and numbers of livestock, distribution, seasons of use, and livestock management practices needed to meet both livestock management and Bi-State DPS habitat objectives.
 - Evaluate the potential risk to Bi-State DPS and its habitats from existing structural range improvements. Address those structural range improvements identified as posing a risk during the renewal process.
 - Balance grazing between riparian habitats and upland habitats to promote the production and availability of beneficial forbs to the Bi-State DPS in meadows, mesic habitats, and riparian pastures for Bi-State DPS use during nesting and brood-rearing. Consider changing livestock use in riparian/wetland areas to before or after the summer growing season to ensure habitat availability for Bi-State DPS when these habitats are important to broods.
 - To ensure that the NEPA analysis for permit/lease renewal has a range of reasonable alternatives:
 - Include at least one alternative that would implement a deferred or rest-rotation grazing system, if one is not already in place and the size of the allotment warrants.
 - Include a reasonable range of alternatives (e.g., no grazing or a significantly reduced grazing alternative, current grazing alternative, increased grazing alternative, etc.) to compare the impacts of livestock grazing on Bi-State DPS habitat and land health from the proposed action.
 - If land treatments and/or range improvements are the primary action for achieving land health standards for Bi-State DPS habitat maintenance or enhancement, clearly display the effects of such actions in the alternatives analyzed.

Fences (Applicable to all programs)

- Evaluate the need for proposed fences, especially those within PPH that have been active within the past 5 years and in movement corridors between leks and roost locations. Consider deferring fence construction unless the objective is to benefit Bi-State DPS habitat, improve land health, promote successful reclamation, protect human health and safety, or provide resource protection. If the BLM authorizes a new fence, then, where appropriate, apply mitigation (e.g., proper siting, marking, post and pole construction, let-down fences) to minimize or eliminate potential impacts to Bi-State DPS as determined in cooperation with the respective state wildlife agency.
- To improve visibility, mark existing fences that have been identified as a collision risk. Prioritizing fences within PPH, fences posing higher risks to Bi-State DPS include those:
 - On flat topography;
 - Where spans exceed 12 feet between T-posts;
 - Without wooden posts; or
 - Where fence densities exceed 1.6 miles of fence per section (640 acres).³

Water Developments (applicable to all programs)Proposed Authorizations/Activities

- NEPA analysis for all new water developments must assess impacts to Bi-State DPS and its habitat.
- Install escape ramps and a mechanism such as a float or shut-off valve to control the flow of water in tanks and troughs.
- Design structures, or control water to developments, in a manner that minimizes potential for production of mosquitoes which may carry West Nile virus.

Special Recreation PermitsExisting Authorization/Activities

- Work with permittees to avoid or minimize effects to Bi-State DPS and its habitat.
- Evaluate existing Special Recreation Permits (SRP) for adverse effects to Bi-State DPS and modify or cancel the permit, as appropriate, to avoid or minimize effects of habitat alterations or other physical disturbances to Bi-State DPS (e.g., breeding, brood-rearing, migration patterns, or winter survival).
- Implement any necessary habitat restoration activities after SRP events. Restoration activities must be consistent with Bi-State DPS habitat objectives as determined by the BLM field office in collaboration with the respective state wildlife agency.

Proposed Authorizations/Activities

- Work with permit applicants to avoid impacts to Bi-State DPS and its habitat.
- It is BLM policy that where a field office determines that it is appropriate to authorize a proposed special recreation permit, the following process must be followed:
 - The BLM will document the reasons for its determination and require the permittee to implement measures to minimize impacts to Bi-State DPS habitat.
 - In addition to considering opportunities for onsite mitigation, the BLM will consider whether it is appropriate to condition the permit with a requirement for offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (refer to WO-IM-2008-204, Off-Site Mitigation).

- Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed permit and mitigation measures would cumulatively maintain or enhance Bi-State DPS habitat, the proposed special recreation permit decision must be forwarded to the Bi-State DPS Technical Team for their review. If this group is unable to agree on the appropriate mitigation for the proposed special recreation permit, then the proposed decision must be forwarded to the EOC, for its review. If the EOC is unable to agree on the appropriate mitigation for the proposed special recreation permit, the EOC will coordinate with and brief either the BLM State Director or designee for a final decision in absence of consensus.
- Field offices retain the discretion to not move forward with a special recreation permit application or defer making a final decision on a special recreation permit decision until the completion of the appropriate LUP process for the affected area.

Recreation Sites

- Use conservation measures to avoid impacts to Bi-State DPS at existing recreation sites.
- Consider closing recreational sites either seasonally or permanently and restricting traffic to avoid or minimize effects of habitat alterations or other physical disturbances to Bi-State DPS (e.g., breeding, brood-rearing, migration patterns, or winter survival).

Travel Management**Existing Authorizations/Activities**

- Evaluate authorizations and use to determine if continued use would result in habitat alterations or population disturbances that impair life history functions of the Bi-State DPS, such as breeding, brood-rearing, migration patterns, or winter survival, as appropriate.
- Place a high priority on closing and reclaiming unauthorized motor vehicle routes that cause habitat alterations or population disturbance.
- Limit and enforce motorized vehicle use to existing or designated roads, primitive roads, and trails and seasons of use to prevent habitat loss or population disturbance that impair life history functions of the Bi-State DPS, such as breeding, migration patterns, or winter survival.

Proposed Authorizations/Activities

- Route construction should be limited to realignments of existing or designated routes to enhance other resources only if that realignment conserves or enhances Bi-State DPS habitat. Use existing roads, or realignments as described above, to access valid existing rights that are not yet developed. If valid existing rights cannot be accessed via existing roads, then any new road constructed will be built to the absolute minimum standard necessary. No improvement to existing routes will occur that would change route category (i.e., road, primitive road, or trail) or enhance capacity.

Locatable Minerals**Existing Authorizations/Activities (i.e., existing operations conducted under a Notice or a Plan of Operations)**

- Request that holders of Notices and Plans of Operation modify their operations to avoid or minimize adverse effects on Bi-State DPS and its habitat. Operators must be informed in the request that compliance is not mandatory.

Proposed Authorizations/Activities (i.e., new Notices or Plans of Operation)

- Require that new notices and plans of operation include measures to avoid or minimize adverse effects to Bi-State DPS populations and its habitat. Ensure that new notices and plans of operation comply with the requirements in 43 CFR 3809 to prevent unnecessary or undue degradation. Such compliance may assist in avoiding or minimizing adverse effects to Bi-State DPS populations and habitat.

Saleable MineralsOngoing Authorizations/Activities (i.e., an authorization has been issued)

- Where valid existing rights exist, work with the holders of authorizations to develop actions such as siting/design of infrastructure, timing of operations, or reclamation standards that will avoid or minimize effects to Bi-State DPS populations and its habitat.

Proposed Authorizations/Activities

- If the BLM has issued or, within 90 days of the issuance of this Instruction Memorandum, the BLM issues a DEIS or a FONSI:
 - Work with applicants to minimize habitat loss, fragmentation, and direct and indirect effects to Bi-State DPS and its habitat.
 - Determine, in coordination with the respective state wildlife agency, whether the proposed authorization would likely have more than minor adverse effects to Bi-State DPS and its habitat. If the proposed authorization would likely have more than minor adverse effects, then implement the policies and procedures set forth in the section immediately below ("All Other Proposed Authorizations/Activities").
- All Other Proposed Authorizations/Activities
It is BLM policy that where a field office determines that it is appropriate to issue an authorization, the following process must be followed:
 - The BLM will document the reasons for its determination and implement measures to minimize impacts to Bi-State DPS habitat.
 - In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects (refer to WO-IM-2008-204, Off-Site Mitigation). When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of Bi-State DPS and its habitat.
 - Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed pit and mitigation measures would cumulatively maintain or enhance Bi-State DPS habitat, the proposed pit authorization decision must be forwarded to the Bi-State DPS technical Working Team for their review. If this group is unable to agree on the appropriate mitigation for the proposed authorization, then the proposed decision must be forwarded to the EOC, when appropriate, for its review. If the EOC is unable to agree on the appropriate mitigation for the proposed authorization, the EOC will coordinate with and brief the BLM State Director for a final decision in absence of consensus.

- Exception- Pit Expansion Only: New permits may be issued for pit expansion, provided there are no adverse effects on Bi-State DPS and its habitat.
- Field offices retain the discretion to not move forward with an authorization, where appropriate, or defer making a final decision on regarding an authorization until the completion of the appropriate LUP process for the affected area.

Grasshopper and Mormon Cricket Control and Management

Proposed Authorizations/Activities

- If grasshopper control is proposed, the NEPA analysis must address impacts on Bi-State DPS and its habitat.
- Continue to implement WO-IM-2010-084, Grasshopper and Mormon Cricket Treatments within Bi-State DPS Habitat Coordinate with local Animal and Plant Health Inspection Service (APHIS) personnel and state wildlife agencies concerning treatments in Bi-State DPS habitat.
- Management actions and operating procedures may include, but are not limited, to the following:
 - Evaluate and restrict or modify treatment methods and timing of use or other mitigation.
 - Avoid spraying treatment areas in May and June (or as appropriate to local circumstances) to provide insect availability for early development of Bi-State DPS chicks.
 - Application timing should be implemented to reduce disturbance and impacts to Bi-State DPS.
 - Use approved chemicals with the lowest toxicity to Bi-State DPS that still provide effective control of grasshopper and Mormon cricket. Coordinate with APHIS to determine the approved chemical with the lowest toxicity.
 - Evaluate the appropriate percentages of Environmental Protection Agency (EPA) allowable chemical rates and the pros and cons of available chemical use, in coordination with state wildlife agencies, FWS, and APHIS.
 - Use *Carbaryl* only when necessary to treat large grasshopper and Mormon cricket populations late in the season. APHIS will coordinate the use with the respective BLM state office prior to any application.
 - Implement effectiveness monitoring, if warranted.

Wild Horse and Burro Management

Existing Authorizations/Activities

- Manage wild horse and burro population levels within established Appropriate Management Levels (AML).
- Wild Horse Herd Management Areas will receive priority for removal of excess horses within Bi-State DPS habitat.
- Wild horses and burros remaining in Herd Management Areas/Wild Horse Territories where the AML has been established as zero will receive priority for removal.
- When developing overall workload priorities for the upcoming year, prioritize horse gathers except where removals are necessary in non-PPH to prevent catastrophic herd health and ecological impacts.

Realty Actions (e.g., Land Exchanges, Transfers, and Sales)

It is BLM policy that where a field office determines that it is appropriate to implement a public land disposal action, the following process must be followed:

- The BLM will document the reasons for its determination and implement measures to minimize impacts to Bi-State DPS habitat. Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed land disposal action would cumulatively maintain or enhance Bi-State DPS habitat, the proposed land disposal action must be forwarded to the Bi-State Bi-State DPS Technical Team for their review. If this group is unable to agree on the appropriate mitigation for the proposed land disposal action, then the proposed decision must be forwarded to the EOC for its review. If the EOC is unable to agree on the appropriate mitigation for the proposed land disposal action, they will coordinate with and brief the BLM State Director for a final decision in absence of consensus.
- Exception: Those land disposal actions (e.g., the BLM's acceptance of an Application for Land for Recreation and Public Purposes, Publication of a Federal Register Notice of Realty Action, Execution of an Agreement to Initiate an Exchange, the BLM's acceptance of a State Application for Selection) initiated prior to or if the BLM is within 90 days of the issuance of a DEIS or FONSI for a land disposal action following the date of this IM.

Vegetation and Resource Monitoring

Existing Authorizations/Activities

- Continue to coordinate with NRCS and its contractors to implement the BLM *Landscape Monitoring Framework Project* developed under the *Assessment, Inventory and Monitoring Strategy* to assess the condition of public lands including PPH at a landscape level.
- Continue to work with livestock grazing permittees/lessees to collect specific kinds of monitoring information on their allotments to supplement monitoring information collected by the BLM (refer to WO-IB-2010-015, Grazing Permittee - Joint Cooperative Monitoring, for additional information) or Forest Service (cf. FSM or directive).
- Until further direction is provided, and within the range of the Bi-State DPS, the Wildlife Program for the BLM (1110) will collect, consolidate, and report the following annually to the Division of Fish and Wildlife Conservation (WO-230):
 - Miles, acres, and/or number of structures (e.g., fences, water developments, well pads, gravel pits, roads) removed, installed, relocated, decommissioned, modified, or mitigated to benefit Bi-State DPS and its habitat;
 - Number of BLM use authorizations issued or deferred and the associated acres where changes in management were implemented to benefit Bi-State DPS and its habitat;
 - Acres where the BLM implemented changes in use in order to improve habitat for the Bi-State DPS in cooperation with other Federal or state agencies;
 - Acres of habitat altered by wildland fire, acres treated after fire, and acres not treated after fire that were in need of treatment;
 - Acres of habitat altered by fuels treatment projects and how those treatments affected habitat;
 - Acres of vegetation treated to benefit Bi-State DPS habitat; and
 - Number of allotments assessed for land health standards and the associated acres, according to Table 7A of the *Rangeland Inventory, Evaluation and Monitoring Report*.

Proposed Authorizations/Activities

- New activity plans and/or project plans must include clear objectives to benefit Bi-State DPS habitat and vegetative resource conditions. Base these vegetative objectives on (1) the native shrub reference state as shown in the *State and Transition Model* outlined in the applicable ESD, where available; (2) published scientific habitat guidelines for specific areas and Bi-State DPS habitat requisites; and (3) local Bi-State DPS working group recommendations.
- Monitor activities and projects using the BLM core indicators and protocols (see the *BLM Assessment, Inventory and Monitoring Strategy*) to ensure that the objectives are being met. Supplement data collection, as necessary, with other programmatic information for the site to demonstrate that objectives are being met.
- Complete habitat inventories/assessments in a timely manner so that data are available for consideration in livestock grazing permit renewals and other management decisions.

Timeframe: This IM/ID is effective immediately and will remain in effect until the BLM completes the LUP process to amend the RMPs to provide protection for Bi-State DPS and its habitat.

Budget Impact: This IM/ID will result in additional costs for coordination, NEPA review, planning, implementation, and monitoring.

Background: In March 2010, the FWS published its petition decision for the Bi-State Distinct Population Segment of Bi-State DPS as “Warranted but Precluded.” Inadequacy of regulatory mechanisms was identified as one of the major factors in the FWS’s finding on Bi-State Distinct Population Segment of Bi-State DPS. The FWS has identified the principal regulatory mechanism for the BLM as protective measures embedded in LUPs. The goal is to conserve habitat necessary to sustain Greater Bi-State DPS populations and reduce the likelihood of listing under the Endangered Species Act.

Manual/Handbook Sections Affected: None.

Coordination: This IM/ID was coordinated with the Strategy Working Team for the Bi-State Sage-grouse Distinct Population Segment.

Contact: Direct any questions or concerns to application of this direction to Raul Morales, Deputy State Director for Resources, Lands, and Planning (NV930) at 775-861-6767 or rmorales@blm.gov, or to Joe Tague, Branch Chief Renewable Resources and Planning (NV934) at 775-861-6556 or jtague@blm.gov.

Signed by:
Amy Lueders
State Director

Authenticated by:
Edison Garcia
Staff Assistant

Attachment

- 1- [Bi-State Sage-Grouse DPS Preliminary Priority Habitat Map \(1 p\)](#)

- [1] Doherty, K. E., J.D. Tack, J.S. Evans and D. E. Naugle. 2010. Mapping breeding densities of Greater Sage-Grouse: A tool for range-wide conservation planning. BLM Completion Report: Interagency Agreement # L10PG00911.
- [2] Stiver, S.J., E.T Rinkes, AND D.E. Naugle. 2010. Sage-grouse Habitat Assessment Framework. U.S. Bureau of Land Management. Unpublished Report. U.S. Bureau of Land Management, Idaho State Office, Boise, Idaho.
- [3] Stevens, B.S. 2011. Impacts of Fences on Greater Sage-Grouse in Idaho: Collision, Mitigation, and Spatial Ecology (Master's Thesis). University of Idaho, Moscow, Idaho.

A3: The Humboldt-Toiyabe National Forest Summary of Current Direction and Best Management Practices for the Protection of the Bi-state Sage Grouse

Note: This document has been scanned in its original format and begins on the following page.

Greater Sage-grouse

(*Centrocercus urophasianus*) updated: 9/19/11

ESA Candidate (Greater sage-grouse listing priority = 8, bi-state listing priority = 3), USFS R4 SS

- HTNF Management Plan Guidance: (Please note that while these guidelines are outdated, they are currently HTNF's official direction.)

Humboldt National Forest Land and Resource Management Plan (1986):

- Sage-grouse are designated as a Management Indicator Species (MIS) for sagebrush and riparian areas. Monitoring should detect a 20% change in 5 years (current: 36,300, min/max: 3,900/40,000)
- Amendment #2: Key sage grouse habitat is defined as the portion of the habitat necessary to maintain and perpetuate the population. Included are winter ranges, breeding complexes, brood rearing areas, and water sources. Project proposals that will alter identified key sage grouse habitat will be analyzed, on the ground, with the appropriate NDOW personnel per the MOU between the FS R4 and NDOW. The basis for project evaluation will be the current Forest Land Management Plan S&G, the Western States Sage Grouse Management practices as outlined in the technical bulletins and the Western States Sage Grouse Guidelines for Habitat Protection. Inventory of key sage grouse habitat and its various components will occur as part of the analysis of all proposed projects with the potential to adversely affect habitat capability.

Toiyabe National Forest Land and Resource Management Plan (1986):

- Sage-grouse are designated as an MIS.
- The following standards are set for sage grouse habitats:
 - Use dropping counts, sage grouse sightings, and historical records to reveal location and importance of sage grouse habitat.
 - Maintain 20-55% canopy cover on sage grouse range.
 - Use irregularly designed patterns when manipulating brush in sage grouse habitat.
 - Maintain meadows in sage grouse range in high ecological status. Restore meadows.
 - Retain irregular leave strips of untreated sagebrush approximately 100 yards wide adjacent to stream bottoms and meadows.
 - Include use of a combination of forbs and grasses desirable to sage grouse when rehabilitating sage grouse habitat.
 - Maintain desirable sagebrush habitat on known sage grouse wintering areas.
 - As appropriate, National Forest personnel will arrange a joint on-the-ground review of proposed projects with the proper local or state wildlife biologist so details of wildlife coordination can be explained and discussed.
 - Protect critical areas for sage grouse brood rearing.
- Monitoring is deferred to NDOW with the direction that monitoring should not show a decline (no % decline of time period are specified).
- Occurrence and Habitat Data Sources:
 - NDOW Lek Layer Map
 - NDOW Seasonal Habitat Map (winter, nesting, summer)
 - NDOW Core Breeding Habitat Map (SW ReCap vegetation layer)
 - NDOW Habitat Categorization Map (categories 0-5)
 - BLM R-Value Map (Prioritization of Restoration Projects based on Habitat Condition and Importance)
- Mapping Parameters: Sagebrush-obligate found above 4,000 feet in elevation.
 - Lek: Open sites within or adjacent to sagebrush dominated habitats: <10% slope, >25cm precipitation, <2km from water, low disturbance, low woodland encroachment (Nisbet et al. 1983)
 - Nest: Can be >20km from a lek. They generally have larger bushes with greater obstructing cover.
 - Brood-rearing: Early brood-rearing – sagebrush dominated areas near the nest. Late brood-rearing – area with perennial forbs at the edges of upland meadows. A mosaic of upland sagebrush vegetation intermixed with mountain meadows and spring systems.
 - Winter: Broadly distributed, but largely dominated by mountain big sagebrush, Wyoming big sagebrush and low or black sagebrush.

- Survey Method: Assume that all suitable habitat, including that which is and is not mapped by NDOW (including a 3-mile buffer around all leks) is occupied unless surveys indicate otherwise. For walking transects, intensively search for birds or sign and record all observations with a GPS unit. Report data as the number of sign per kilometer of survey route walked. Here is a sample survey method:
Mature sagebrush communities and meadow vegetation within the proposed area of disturbance and a 200-foot buffer outside of the disturbance footprint will be systematically surveyed with walking transects. Greater sage-grouse or their sign will be intensively surveyed for along each transect (50-100 feet apart). The UTM coordinates of each greater sage-grouse observation, nest, or fresh sign will be recorded with a GPS unit. A trained pointing dog will be used to assist in locating sage-grouse. Data will be reported as the number of sign per kilometer or survey route walked. Such data will be also provide a distribution map of where sage-grouse and/or sign were found.
- Monitoring: Sage-grouse demographics mirror those of other upland game birds with “boom and bust” natural cycles independent of anthropogenic activity; long-term data from NDOW indicate that a minimum of 10 years of monitoring is required to separate project effects (signal) from natural cycles (noise). NDOW oversees the state-wide sage-grouse monitoring effort in Nevada.
- Avoidance Measures/ Design Features (SO guidance is based on *Nevada Energy and Infrastructure Development Standards to Conserve Greater Sage-grouse Populations and their Habitats* (Nevada Governor’s Sage-grouse Conservation Team 2010)):
 - Active leks (Category 1) and designated R0 habitat*:
 - No development (including transmission lines) within 3 miles of active leks. No roads within 0.6 miles.
 - No high-level disturbance within 3 miles of active leks during critical dates.
 - No low-level disturbance within 0.6 miles of active leks during critical dates.
 - Note: Migratory birds require expanded buffers to include the associated nesting habitat for that population.
*R0 are described as, “habitat areas with desired species composition that has sufficient, but not excessive, sagebrush canopy and sufficient grasses and forbs in the undersotry to provide adequate cover and forage to meet the seasonal needs of sage-grouse (NV 2010).
 - Winter and high-quality brood-rearing habitat (Category 2):
 - No high-level disturbance in this habitat during critical dates (01 December – 01 March).
 - Springs, meadows, and riparian corridors:
 - No development within 0.6 miles of these features within identified brood-rearing habitats.
 - No high-level disturbance within 0.6 miles of these features within identified brood-rearing habitats during critical dates (01 June – 01 September).
 - Fire projects designed to enhance sage-grouse habitat must follow timing restrictions.
- Critical Dates (Dates are based on NDOW guidance. Guidance from USFS R4 is in parentheses):
 - Winter 12/1 – 3/1 (USFS R4 11/5-3/15)
 - Breeding (active lek) 3/1-5/15
 - Nesting/Early brood-rearing 3/15-6/30
 - Late Brood-rearing 6/1 – 9/1 (USFS R4 7/1 – 9/30)

*The best times to allow for noise/activity are July 15 – November 30 (USFS R4 October 1 – November 30)
- Disturbance Examples:
 - High-level: ongoing noise (drilling, continual traffic, generators). Noise above 55 decibels (dBa) should be muffled.
 - Low-level: concentrating livestock activities (salting, handling areas, water sources), light traffic (<12 vehicles per day from 10am-5pm).
- Conservation Measures/Mitigation/Restoration:
 - Consult local PMU and implement restoration strategies.
 - Coordinate large-scale restoration projects with NDOW and BLM.
 - Actively and aggressively suppress all wildland fires that occur in or near sage-grouse habitat.
 - Currently, there is no science to indicate that leks that are destroyed can be successfully created offsite and used by sage-grouse.
- Solar/Wind/Utility Developments:

- Contact NDOW and FWS for guidance.
- Key References:
 - Knick, S. T., and J. W. Connelly (editors). 2011. Greater sage-grouse: ecology and conservation of a landscape species and its habitats. Studies in Avian Biology Series (vol. 38), University of California Press, Berkeley, CA.
 - Nevada Sage-grouse Conservation Plan: <http://www.ndow.org/wild/conservation/sg/plan/> (NDOW)
 - Nevada Governor's Sage-grouse Conservation Team. 2010. Nevada Energy and Infrastructure Development Standards to Conserve Greater Sage-grouse Populations and Their Habitats.
- Working Groups and Experts:
 - NV Governor's Sage Grouse Conservation Team (Sean Espinosa, lead)
 - NDOW: Sean Espinosa, sepinosa@ndow.org, 775-688-1523
 - FWS (NV): Steve Abele, steve_abele@fws.gov, 775-861-6300
 - HTNF Contact: Rachel Mazur, rmazur@fs.fed.us
- Humboldt National Forest LRMP (1986): Designates sage-grouse as an MIS for sagebrush grass and riparian areas. Monitoring should be designed to detect a 20% change in five years. The 1986 populations was 36,300. The min/max was designated as 3,900/40,000.
 - Amendment #2 (1990): Key sage grouse habitat is defined as the portion of the habitat necessary to maintain and perpetuate the population. Included are winter ranges, breeding complexes, brood rearing areas, and water sources. Project proposals that will alter identified key sage grouse habitat will be analyzed, on the ground, with the appropriate NDOW personnel per the MOU between the FS R4 and NDOW. The basis for project evaluation will be the current Forest Land Management Plan S&G, the Western States Sage Grouse Management practices as outlined in the technical bulletins and the Western States Sage Grouse Guidelines for Habitat Protection. Inventory of key sage grouse habitat and its various components will occur as part of the analysis of all proposed projects with the potential to adversely affect habitat capability.
- Toiyabe National Forest LRMP (1986):
 - Standards for sage-grouse habitats:
 - Use dropping counts, sage grouse sightings, and historical records to reveal location and importance of sage grouse habitat.
 - Maintain 20-55% canopy cover on sage grouse range.
 - Use irregularly designed patterns when manipulating brush in sage grouse habitat.
 - Maintain meadows in sage grouse range in high ecological status. Restore meadows.
 - Retain irregular leave strips of untreated sagebrush approximately 100 yards wide adjacent to stream bottoms and meadows.
 - Include use of a combination of forbs and grasses desirable to sage grouse when rehabilitating sage grouse habitat.
 - Maintain desirable sagebrush habitat on known sage grouse wintering areas.
 - As appropriate, National Forest personnel will arrange a joint on-the-ground review of proposed projects with the proper local or state wildlife biologist so details of wildlife coordination can be explained and discussed.
 - Protect critical areas for sage grouse brood rearing.
 - Monitoring Plan: Be sure NDOW data don't show a decline.
- Northern Sierra Amendment (1999): Designates the sage-grouse as a species-at-risk.

Appendix B: Enhancement Act Lands

On April 26, 1989 PL 100-550 (Nevada Enhancement Act) was enacted by the Congress. The purpose of this act was to "...increase and improve the efficiency and cost effectiveness of management of lands by having administration under one agency". In addition the Congress stated that these lands would be subject to the planning requirements of section 6 of the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) as amended by the National Forest Management Act (NFMA), except all transferred lands shall continue to be managed in accordance with plans in effect on the date of enactment of the Act until considered in plans developed under the RPA-NFMA.

The Enhancement Act lands surrounding the portions of the Bridgeport Ranger Districts located in Nevada are all adjacent to the Bridgeport Pinyon-Juniper Management Area #6 as described in the Toiyabe National Forest Land and Resource management Plan. The Bridgeport Pinyon Juniper Management Area is 605,400 acres with management emphasis on key values of wildlife, dispersed recreations, and grazing. Also included in the management direction is the need to provide for the orderly exploration, development and reclamation of mining resources in a manner that minimizes effects on range, wildlife and recreation values.

The proposed action would apply the management area direction along with the Goals, Objectives, Standards and Guidelines for the bi-state Sage-grouse amendment to the Sweetwater Enhancement Act lands surrounding the Bridgeport Pinyon Juniper Management Area#6. This addition brings the enhancement act lands under the Toiyabe National Forest Land and Resource Management plan and increases the size of the Bridgeport Pinyon –Juniper #6 management area from 605,400 acres to 863,736 acres (Figure B-1). All general and Management Area #6 specific management plan direction as presented in the Toiyabe National Forest Land and Resource Management Plan as amended would apply to all portions of the enhancement act lands.

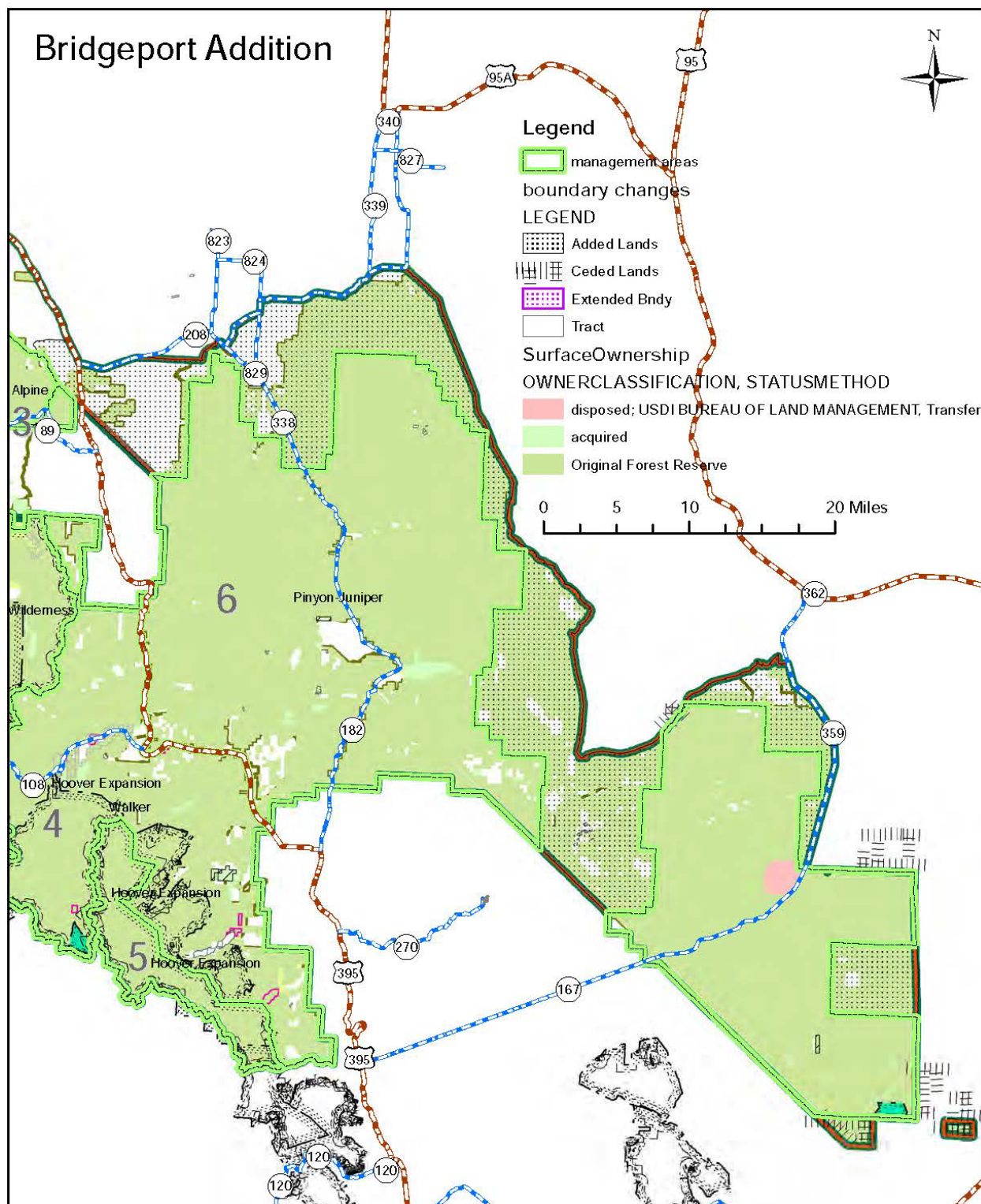


Figure B-1. Bridgeport Addition; Enhancement Act lands

Appendix C: Response to Comments

Introduction

This report summarizes and provides Forest Service employees' responses to public comments that were received by the Humboldt-Toiyabe National Forest concerning the Greater Sage-grouse Bi-state Distinct Population Segment Forest Plan Amendment Revised Draft Environmental Impact Statement (revised draft EIS). The notice of availability was published in the *Federal Register* on July 11, 2014, and the 90-day comment period ended October 9, 2014. During this period the Forest received several requests for a 6-month extension of the comment period. During this period, the districts received 15 letters, e-mails, and comment forms from individuals, organizations, and government entities.

The interdisciplinary team (ID team) reviewed all original letters, e-mails, and verbal comments from respondents; considered the substance of the concerns; evaluated whether they triggered a change in the environmental analysis; and drafted responses. Through this process the ID team provided responses in their areas of expertise to approximately 387 comments gleaned from the letters, e-mails, and verbal comments. In general, the ID team responses, as prescribed in the Code of Federal Regulations (40 CFR 1503.4), do the following:

- Modify alternatives including the proposed action
- Supplement, improve, or modify the analysis
- Make factual/editorial corrections
- Explain why the comments do not need further Forest Service response

In response to the comments on the proposed action and alternatives, the ID team made factual and clarifying corrections in the environmental impact statement (EIS) or explained why changes were not warranted. Minimal responses (basically an acknowledgement of each) have been made to concerns that state positions or opinions. However, these positions and opinions have been included by the ID team for consideration by the responsible official. Some specific suggestions for management of the project area may be adopted by the responsible official. Some specific concerns are beyond the authority of the Forest Service and beyond the scope of the EIS or determined to be impractical. None of the comments demand a re-analysis of alternatives.

Collaboration Activities

The notice of intent to prepare an EIS was published in the *Federal Register* on November 30, 2012 (*Federal Register* Volume 77, Number 231). The notice asked for public comment on the proposal to be received by January 30, 2013. In addition, a scoping letter was sent out to the public on November 30, 2012, describing the proposed action and asking for comments. This letter was sent out to approximately 200 organizations and individuals.

The Forest Service published a news release in the *Reno Gazette Journal* on December 6, 2012 (with a stop date of January 30, 2013). The release described the project and invited public comment. The Forest Service and BLM hosted two public meetings. One was held on January 9, 2013, in Minden, Nevada, and the other on January 10, 2013, in Smith Valley, Nevada, where about 15 people (total for both meetings) attended.

Public notification of this proposed action was posted online from November 29, 2012, to January 30, 2013, at http://www.fs.fed.us/nepa/nepa_project_exp.php?project=40683. This proposed amendment is subject to the objection procedures of 36 CFR 219 subpart B (see 219.52(a)).

The Notice of Availability for the Greater Sage-grouse Bi-state Distinct Population Segment Forest Plan Amendment was published in the *Federal Register* August 23, 2013. This publication started the 90-day comment period that ended November 20, 2013. The comment period was extended twice and then ended January 17, 2014. In addition, public notification of this draft EIS was posted online from August 16, 2013, through the end of the extended comment period at http://www.fs.fed.us/nepa/nepa_project_exp.php?project=40683. A news release was published in the *Reno Gazette Journal* starting August 16, 2013, with an original stop date of November 20, 2013. With each extension of the comment period the news release was extended. The first extension was from November 20 to December 27, 2013, and the second was from December 27, 2013, to January 17, 2014. The news release notified the public and was published in the *Reno Gazette Journal*. A notice of the comment period extension was published in the *Federal Register* on December 27, 2013.

On March 21, 2014, Tony Wasley, Co-chairman of the Bi-state Executive Oversight Committee, sent a letter to Ren Lohofener, Regional Director of the U.S. Fish and Wildlife Service (USDI FWS), requesting in part the USFWS provide an additional 6 months to analyze new information before making a final decision on the potential threatened listing of the bi-state DPS. On March 31, 2014, the USFWS added 6 months beyond the original October 2014 deadline, which extends the new deadline to April 2015.

With the additional information gathered during the twice-extended comment period and additional time provided by the USFWS, the decision was made to prepare this revised draft EIS. The intent of the revised draft EIS is to give the Forest Service and Bureau of Land Management (BLM) an opportunity to analyze and present new information that became available after publication of original draft EIS.

Comments and Responses

Public comment on the proposed action is rich and varied, and reflects, for the most part, respondents' livelihoods, lifestyles, and positions or opinions. All comments have been read and a response prepared to reflect the ID team's understanding of the comment. This report includes a complete list of respondents' comments and the agency's responses. Each comment letter is identified by the author and the date it was received. All respondents' names and addresses were entered into a database, so that a complete list of all respondents could be generated. Original letters and emails are found in the Greater Sage-grouse Bi-state Distinct Population Segment Forest Plan Amendment project record located at the Humboldt-Toiyabe National Forest Supervisor's Office in Sparks, Nevada and are available electronically by request.

Overall Responses to a Few Common Comments

There have been three EISs for this project, the original draft EIS, a revised draft EIS, and now this final EIS. Throughout the process there have changes and updates in these documents to communicate clearly the proposed management direction that would be added to the Humboldt-Toiyabe National Forest and the Tonopah Field Office and Carson City Field Office units of the BLM. This section seeks to clarify items brought up not only in the comment period for the revised draft EIS, but also throughout the project.

Why don't your goals, objectives, standards, and guidelines (i.e., regulation mechanisms) look like ones I've seen before? The are two reasons: (1) Unlike the majority of other sage grouse projects going on across the county, this project is led by the Forest Service and *not* the BLM; and (2) these goals, objectives, and standards and guidelines are specific to the bi-state DPS of the greater sage-grouse. So what does that mean?

For the first point, while both the Forest Service and BLM follow the law of NEPA (National Environmental Policy Act) which requires that the agencies conduct environmental analyses before creating and implementing resource management plans, agency-specific handbooks and manuals dictate more specifically how resource management plans will be assembled. This includes specific direction on the terminology needed and how those terms are to be defined. The Forest Service falls under the Department of Agriculture and the BLM is under the Department of the Interior. Throughout time both of these agencies have developed their own specific manuals and handbooks that give direction on the processes necessary to implement NEPA for resource plan management. Given the origins of these two different agencies and their different mission statements, the direction is unique to each—which means that language used in the planning process is going to look different between the Forest Service and the BLM.

Although the language needed for each of the different planning processes is different, the meaning and intent of the management direction is the same between the two agencies. Between draft and final a fifth column was added to Table 2-4 that displays the BLM version of the standard or guideline.

For the second point, this plan amendment is specific for the bi-state DPS. While this distinct population segment of the greater sage-grouse is very similar biologically, any needed adjustments to assure the management direction is specifically geared to the needs of the bi-state DPS have been made. The biggest concern is the bi-state sage grouse is a much smaller and geographically isolated subspecies of the greater sage-grouse. Due to this difference, more conservation management direction is proposed than what might otherwise be found in the other greater sage-grouse documents.

Why there isn't a discussion on "adaptive management"? While there is a need for the majority of the BLM-lead EISs to have a discussion about adaptive management with thresholds and resulting actions should those thresholds be met, the decision was made in the first draft EIS for the bi-state DPS not to include this language in the plan amendment. The reason for this is that if monitoring indicates a need to change management direction then the Forest or BLM can do that following the NEPA process. Forest Service programmatic NEPA is inherently designed to allow for changes to be made. Some can be done through a shorter supplemental information report (section 18), site-specific plan amendment, or go through another larger amendment process like this one. There are standard operating procedures (based on regulations in the Forest Service Handbook and Forest Service Manual) that allow the Forest Service flexibility to respond quickly to a situation should there be a need to change any of the management direction analyzed in this document.

Why we don't have a discussion on specific "mitigation measures" or "decision framework"? The Forest Service planning rule is specific about what kinds of items are required plan components. These items include desired future condition, goals, objectives, and standards and guidelines (219.7 (1)(2)). These terms are defined in the attached glossary. These plan components guide decision making; however, they do not create a specific "decision framework" of "if this, then that" statements. These components simply set up the side boards for the secondary site-specific NEPA analyses that are tied to particular geographic spots on the Federal systems lands. It is through this secondary site-specific process that decisions are made using detailed information and quantitative analysis that give the decision maker a more robust picture of expected effects from explicit proposed actions on the ground.

Along with not having a decision framework, we do not propose any mitigation measures, also due to this secondary NEPA process that allows for site-specific analysis that can include mitigation measures as well as project design features that can ensure the proposed project follows the management direction proposed here in this final EIS. Having the detailed information is critical to ensure that whatever mitigation measures or design features are proposed, chosen, and implemented, are appropriate for the specific project and the resulting effects on the bi-state DPS.

Why we didn't include specific "species reserves" or areas of critical environmental concern. The purpose and need provides the rationale for the critical need to protect the bi-state DPS. Both the proposed amendment and the alternative apply to all mapped bi-state DPS habitat. While the mapped area does not have a special designation such as an ACEC, it still contains similarly specific management prescriptions to manage and protect the bi-state DPS and its habitat. All of these management actions provide similar and equal protections for the bi-state DPS. This EIS is a Forest Service-lead planning effort and is following the Forest Service planning process. The Forest Service does not recognize or establish ACECs, nor does the Agency have the authority to establish special reserves equating to a wilderness (that authority resides with congress).

The role of the Conservation Objectives Team and the National Technical Team in this management direction. Both the Conservation Objectives Team and the National Technical Team reports were used in the development of the management direction for this EIS. The original draft EIS heavily relied on the National Technical Team report, in particular to develop its specific goals, objectives, and standards and guidelines. The comments received from the draft EIS encouraged the Forest Service to be more specific in the language used in these plan components; hence the resulting development of the modified proposed action and the addition of the new alternative in the revised draft EIS. While the wording changed to be more specific to the bi-state DPS than the original National Technical Team or Conservation Objectives Team reports, the intent of those specific items was preserved.

Budgets, allocations of resources, and commitments to specific actions in a Forest Plan. Items such as budgets, allocations of resources, or commitments to specific projects in resource management plans are outside the scope of the planning authority. For example, budgets are subject to what the U.S. Congress determines is the Agency funding level under its budgetary process, and staffing issues are more properly addressed by specific forests and grasslands, or regional and national offices. Furthermore, due to the uncertainty of budget allocations and the resulting resources available, making commitments to specific actions in a Forest Plan is also outside of the scope of our planning authority. Having that secondary project-level NEPA process is essential in order to have a better idea of what kinds of on-the-ground actions can realistically take place during any given year.

How do we define the 3 percent disturbance cap? While a 3 percent disturbance cap has been included in the proposed action since the draft EIS, there have always been questions regarding how it would be calculated and implemented. The revised draft introduces the "no net unmitigated loss" of habitat which is much easier to comprehend and does not provide for the incremental reduction of available habitat through the 3 percent process. It is the no net loss of habitat standard that is being included in the preferred alternative. The 3 percent cap would be based on existing anthropogenic disturbance in bi-state DPS habitat regardless of ownership. Existing roads, powerline corridors, substations, fence lines, range facilities, recreation facilities and trails, disturbance related to mineral exploration and development, would all contribute to the determination of the existing condition. Once the existing condition was determined, any additional (proposed) disturbance would be added to that level until the 3 percent cap was met.

Government Entities

Nevada Association of Counties
Mono County, Community Development Department
U.S. Fish and Wildlife Service
Nevada Department of Wildlife
U.S. Environmental Protection Agency
U.S. Department of the Interior

Organizations

Western Watershed Project
Sierra Club
Defenders of Wildlife
American Bird Conservancy

Industry

American Exploration and Mining Association
Lincoln Resource Group Corp.
Resource Concepts, Inc.

Individuals

Jean Public
Reed Secord

Sierra Club Letter Dated August 26, 2014		
Comment Number	Comment	Response
1	Comment: And we appreciate the addition of at least one more alternative to the draft EIS, although the range of alternatives studied is still quite deficient.	Response: The final EIS includes three action alternatives and six alternatives considered and eliminated from detailed consideration. The range of choice between the no action, proposed action, and alternative C includes the degree of actions along a management spectrum. For instance, alternative A, the no-action alternative, would allow livestock grazing as it is currently allowed under the Forest Plan. Alternative B includes standards and guidelines that alter use, timing, and use of different facility types (troughs, corrals, fences, supplement) all to reduce the potential impact of livestock grazing on the grouse and the habitat. In contrast, alternative C would close allotments in bi-state DPS habitat, and overtime, grazing facilities would be removed.
2	Comment: We were surprised not to find any information in the dEIS on the recent funding commitment by the US Department of Agriculture and the Department of Interior/Bureau of Land Management (BLM) to implementing the 2012 Bi-State Action Plan. Please include this document in the final EIS and clarify whether these funds are dependent on future annual Congressional appropriations or are already in the agency budgets over the next 10 years.	Response: The recent funding commitment made by the Forest Service, Natural Resources and Conservation Service (NRCS), and BLM was not a National Environmental Policy Act (NEPA) decision nor was it dependent on the analysis in the final EIS or the decision in the record of decision. The revised draft EIS and the final EIS are presented to disclose the effects of the proposed action and alternatives on management of resources that may occur in the bi-state DPS and associated habitats. The commitment to fund the habitat improvement projects in the bi-state action plan has no bearing on the issues being addressed in the final EIS.
3	Comment: Please include this document in the final EIS and clarify whether these funds are dependent on future annual Congressional appropriations or are already in the agency budgets over the next 10 years.	Response: The document is included as part of the project record. The Chief of the Forest Service made a commitment to provide the funds described in the document over the next 10 years. The commitment comes out of the annually approved congressional appropriations.
4	Comment: There still appears to be no information on what baseline data was used by the USFS and the BLM in the Bi-state area in order to evaluate the effectiveness of the many projects implemented by the agencies since 2004 and which at least the Forest Service proposes to continue for another 10 years (p. iii - "... many of the changes in site-specific activities are expected to be minimal)."	Response: The referenced sentence refers to the management directions and BMPs (best management practices) the Forest Service and BLM have been implementing over the last decade. These include, but are not limited to, season of use restrictions applied to proposed actions occurring in bi-state DPS habitat, buffer distances around leks, and other similar informal design features applied to discretionary, and non-discretionary actions to limit the potential impacts to the grouse and habitat. Based on recent population studies it appears that some of the efforts outlined in the previous paragraph can be effective at protecting bi-state DPS and associated habitat. Assessing the effectiveness of habitat improvement projects, however, is not a subject of this proposed amendment. The purpose is to adopt a specific set of management directions (goals, objectives, standards and guidelines) that can consistently and reliably be applied to any and all projects (not just habitat improvement projects) that will serve to conserve, enhance, and or restore habitat.

Sierra Club Letter Dated August 26, 2014		
Comment Number	Comment	Response
5	Comment: We certainly don't support continuing activities and projects which provided no measurable benefits. Nor is there any indication of what baseline data the agencies will use in effectiveness evaluations of the millions of dollars pledged to implement the Bi-State Action Plan over the next 10 years.	Response: Comment noted. Project effectiveness monitoring is best conducted and managed from the project level. The implementation program developed to plan and implement the Bi-state Action Plan will include effectiveness monitoring for that program.
6	Comment: Please explain what base line data, if any, is being used by the two agencies. How much Bi-State Sage-grouse habitat was lost in the last 10 years and how much habitat was restored? How much did the Bi-State Sage grouse populations decrease or increase in the last 10 years?	Response: The programmatic questions being asked in this analysis do not require the types of base line data being requested. The USFWS identified that existing regulatory mechanisms to protect sage grouse and their habitats in the bi-state area "...afford sufficient discretion to the decision makers as to render them inadequate to ameliorate the threats to the Bi-state DPS". The Forest and the BLM are proposing to amend their respective Forest Plan and Resource Management Plans to increase the regulatory vigor of the different plans to reduce the available discretion of the decision makers. The baseline for the analysis of the proposed action is the current level of protection allowed by the plans and the interim directions. Population statistics and fluctuation of habitat boundaries, while important for making determinations regarding the regulatory status of the species, are not particularly helpful when assessing the strengths or weaknesses of regulatory mechanisms. What species-specific data we use is included as reference material supporting the "Wildlife" section of the analysis.
7	Comment: We do not understand the scientific basis of the Forest Service's statements on the "impermanence" of leks and breeding areas for Bi-State Sage grouse. What is the basis for this "belief" in the Bi-State planning area? We strongly recommend that the agencies not treat leks as expendable, but to treat every lek, active and inactive, as critically important for this species and provide the strongest protection possible for all of them.	Response: The leks are not treated as expendable. We recognize that changes can occur in the environment and that habitats can expand and contract as vegetation conditions change. The maps and the models used to analyze DPS may not be at a scale conducive to understanding the extent of individual leks.
8	Comment: We recommend that the agencies figure out how to amend their land use plans to encourage grazing management resulting in good and excellent range conditions beneficial to Sage-grouse and how to change grazing practices which are resulting in poor or fair range conditions.	Response: Land use plans identify the desired conditions and objectives for the multiple resources present on the national forest. They provide direction, in the form of standards and guidelines, which serve as the sideboards for management of the resources. For the range resource, the current plan describes areas that are capable and suitable for livestock grazing. There are standards and guidelines that set utilization rates; dictate the use and placement of supplements; and guide the location, construction, and style of fences and water developments. The proposed action amends some of the existing direction to allow livestock grazing that would lead to or benefit bi-state DPS habitat conditions.

Sierra Club Letter Dated August 26, 2014		
Comment Number	Comment	Response
9	Comment: We recommend the agencies consider the use of prescribed grazing to achieve vegetation conditions supportive of Bi-State Sage-grouse habitat requirements. The document proposal to use grazing to control cheat grass appears totally unrealistic and not science-based.	Response: Guideline B-Weed G-01 provides direction for using targeted livestock grazing to target cheat grass or other vegetation hindering bi-state DPS habitat objectives. Standard B-RP-S-01 requires grazing permits, annual operating instructions, and other mechanisms for livestock grazing to include terms and conditions to move toward or maintain the bi-state DPS habitat desired conditions. This direction uses livestock grazing to achieve some of the vegetation conditions that support the desired habitat conditions for the bi-state DPS.
10	Comment: The document fails, however, to analyze the adverse impacts of shifting grazing from livestock to wild horses and burros and unrealistically relies on the agencies' ability to reduce WH&B numbers to allowable management levels (AMLs), something which has never been achieved before on public lands in NV and E. California, to control the impacts from increasing numbers of WH&Bs which would be freed from competition with livestock for forage.	Response: The analysis in the final EIS has been edited to include the potential for adverse impacts to the range resource from a shift away from livestock to wild horses.
11	Comment: The revised document totally fails to address the threats to Bi-State Sage grouse from climate change impacts on its habitat, notwithstanding the discussion of using more warm-adapted native plant species for habitat restoration.	Response: The proposed action and amendments include standards and guidelines, some of which are intended to help improve habitat over time. Other standards and guidelines related to changes in climate are intended to help improve hydrologic function, address the altered fire regimes, and reduce the dominance of noxious and invasive weeds. Ensuring that the native plant species we use in habitat restoration projects are suitable for the climate is only one standard included which considers how the environment is changing.
12	Comment: The benefits to Sage-grouse of removing Phase I pinyon-juniper woodlands are much more likely than removing Phase II or 25-50 percent "canopy closure" woodlands near meadows and leks. These include the benefits of keeping good sage brush habitat in good condition as well as the lowering costs of removing individual smaller trees. We recommend that this standard be changed to prioritize removal of Phase I pinyon-juniper first.	Response: Comment noted. There are certainly trade-offs between projects treating phase I pinyon and juniper and projects treating phase II or III pinyon and juniper. These trade-offs are considered during site-specific project development, and the determination of the "need" for the project.
13	Comment: The revised document fails to discuss the risk of enabling nonnative invasive plants to spread into intact sagebrush communities through soil disturbance in the construction of "green strips and fuel breaks," nor is there significant scientific support for the effectiveness of these weed corridors in stopping wildfires in the Great Basin.	Response: Application of standards and guidelines that provide management direction to prevent the spread of noxious and invasive species into any areas where there is soil disturbance would be applied at the site-specific project level. These standards and guidelines are included to reduce the risk of spread. While the proposed action provides management direction concerning where green strips may be used "...to protect areas with >25 percent landscape sagebrush cover" they are not required and there are other standards and guidelines that further limit disturbance in areas with less than 25 percent landscape sagebrush cover.

Sierra Club Letter Dated August 26, 2014

Comment Number	Comment	Response
14	Comment: The revised document fails to disclose the Forest Service decision on geothermal leasing in the Bi-State area of February 15, 2012 by former Supervisor Jeanne Higgins "to consent to leasing 25 sections (12,809 acres) within the Aurora area of the Bridgeport Ranger District in Mineral County, Nevada."	Response: A decision that adopted the standards and guidelines for oil and gas leasing in the proposed action or alternatives would trigger a changed condition that would require the Forest to revisit the 2012 decision. The 2012 decision allowed leasing of priority habitat under the no-surface-occupancy stipulation. At that time there was both priority and general habitat identified in the bi-state DPS territory. Currently, there is no differentiation between priority and general habitat. Because of the small population, and the fragmented nature of the habitat, it is all consider as priority habitat. The 2012 decision would have to be evaluated to determine if this changed condition would require a supplement.
15	Comment: We are concerned that geothermal leasing and development in this area will adversely impact the resident Bi-State Sage-grouse population and that the plan amendment is inadequate to protect the species from adverse geothermal development impacts.	Response: Comment noted.

Western Watershed Project Letter Dated September 5, 2014

Comment Number	Comment	Response
1	Comment: The Forest Service and BLM must develop a set of site-specific required actions under alternatives that chart a rapid, decisive and clear path forward to ensure protection and restoration (where necessary) of critically important sagebrush wild land habitats critical to sage grouse, and a wealth of other threatened wildlife as well.	Response: The proposed action to amend the LRMP/RMPs by adding to or changing some of the regulatory mechanisms to reduce, eliminate, or minimize threats to Bi-state DPS habitat..." The regulatory mechanisms are proposed in the form of desired conditions, objectives, and standards and guidelines. The amendment will guide future site-specific actions to conserve, enhance, and or restore sagebrush and associated habitats. Developing site-specific actions is outside the scope of the programmatic analysis. However, a set of actions has been developed by the Bi-state Technical Advisory Committee Team. Prior to implementation of these proposed actions each will require a site-specific NEPA analysis where the standards and guidelines analyzed in this EIS and selected for the amendment would be applied.
2	Comment: Agencies propose a very risky massive and wildly expensive deforestation campaign to try to expand habitat into sites often unlikely to ever become prime habitat.	Response: The proposed action includes a set of desired conditions, objectives, and standards and guidelines that would direct implementation of various types of actions on the ground. The standards and guidelines are being proposed to limit and protect bi-state DPS habitat. Any large-scale treatments proposed in the future would be required to adhere to the management direction amended to the LRMP/RMPs.

Western Watershed Project Letter Dated September 5, 2014		
Comment Number	Comment	Response
3	Comment: The Forest in this process must not rely on the Coates bi-state population model that omits bi-state populations that are collapsing (and thus the range is shrinking). It is based on only the past 10 year's data for areas with more birds - ignoring past declines, the much more intensive efforts at lek counts, etc.	Response: The proposed action and subsequent analysis in the final EIS is not based on population modeling. This analysis looks at the potential effects of the proposed action and alternatives on the management of Forest Service- and BLM-administered lands. The final EIS does use the habitat modeling currently used by the USFWS and state wildlife agencies to frame where the standards and guidelines in the proposed action and alternative to the proposed action would apply, but we also recognize that the habitat modeling is improving with every new year of data and that the polygons we display in the final EIS may not be the same polygons the standards and guidelines apply to in 5 to 10 years.
4	Comment: It makes no sense at all to kill trees on steep, rugged, bouldered or otherwise inhospitable terrain or other areas that will never be sage-grouse habitat.	Response: Comment noted. The proposed action in this final EIS does not include proposals for removal of pinyon/juniper from any terrain.
5	Comment: We also strongly emphasize that the full historical extent of native vegetation communities must be understood—based on General Land Office and other records.	Response: Comment noted.
6	Comment: We are very concerned at the agency efforts to cherry-pick better condition sites for land health assessment purposes—rather than also including sites that are very sensitive to disturbance—because those are the sites at high risk of weed invasions, soil erosion, or other irreversible losses.	Response: The agencies have not identified sites for land health assessment nor have they defined criteria for selecting such sites in the final EIS. In Table 2-1 we do describe desired habitat conditions based on scientific literature.
7	Comment: A revised EIS process must fully evaluate a reasonable range of alternatives that will conserve, enhance and restore habitats and populations. This process must recognize the importance of conservation of native vegetation communities as habitat for declining, rare and imperiled species and many kinds of migratory birds.	Response: The final EIS includes the proposed action, the alternative to the proposed action, and the no-action alternative. In addition to those three alternatives analyzed in detail, there are six alternatives that were considered and eliminated from detailed consideration. One of those (number four) considers the prohibition of all discretionary actions that could be proposed in the project area. The alternative to the proposed action was partially based on the recommendations submitted to the Forest during the public comment period on the draft EIS. This alternative considers the conservation needs of the species and associated habitats.
8	Comment: We request that the fully assess alternatives with components below that we have previously described. Protect remaining relatively intact sagebrush and sage-grouse habitats and minimize "collateral damage" to other species habitats. These must be fully identified as part of this process, and intensive inventories conducted.	Response: Proposed standards and guidelines include restrictions on development in bi-state DPS habitat. There is both a no-unmitigated loss of habitat standard and a standard that limits anthropogenic (people caused) disturbance in habitat to 3 percent.

Western Watershed Project Letter Dated September 5, 2014		
Comment Number	Comment	Response
9	Comment: Enable passive restoration of lands "at risk" of weed invasion and/or suffering degradation or facing further losses of native species. This will better buffer these lands from adverse impacts of climate change effects. See Reisner Dissertation 2010, Reisner et al. 2013, Beschta et al. 2012, 2014. Agencies must act to manage lands as an important stronghold for sagebrush species.	Response: Standards and guidelines in the proposed action include management direction to limit disturbance in areas that are not resilient or have little natural resistance to the spread of noxious weeds and annual grasses.
10	Comment: Provide for careful and targeted active restoration.	Response: The proposed action is to provide management direction in the LRMP/RMPs that would reduce, eliminate, or minimize threats to bi-state DPS habitat. Various action plans are being developed by groups which make recommendations regarding restoration activities. How those proposed activities are prioritized and implemented is not part of the decision for this analysis. Each proposed activity will require site-specific NEPA analysis before it is implemented.
11	Comment: Provide for active restoration of crested wheatgrass seedings and cheatgrass or other exotic species areas in order to expand occupied sage-grouse and other habitats.	Response: The restoration of these types of areas may be part of a habitat restoration action plan. Authorization of these types of restoration activities are not part of the proposed action.
12	Comment: Please fully analyze environmental effects of the No Grazing Alternative.	Response: Alternative C includes standard C-RP-S-01 which states that "Grazing allotments containing Bi-state DPS habitat shall be closed to livestock grazing." This standard is analyzed in chapter 3 in contrast to standards that allow continued livestock grazing in habitat following revised forage utilization standards (Table 2-5).
13	Comment: We request that BLM/Forest also consider designation of an ACEC, or series of ACECs and an analogous Forest protection for Bi-state sage-grouse populations.	Response: The revised DEIS is a Forest Service-lead planning effort and is following the Forest Service planning process. The Forest Service does not recognize or establish areas of critical environmental concern (ACECs). The BLM is a cooperating agency and as such could write a record of decision based on this Forest Service document. The Carson City District has evaluated proposed ACECs for inclusion in their RMP revision. The report titled Areas of Critical Environmental Concern-Report on the Application of the Relevance and Importance Criteria was signed and made available to the public in March 2013 on the Carson City District RMP website. Additionally, the Pine Nut Bi-state Sage Grouse ACEC was brought forward for analysis in the Carson City District draft RMP/EIS. The draft RMP/EIS is out for 120-day public review and comment.

Western Watershed Project Letter Dated September 5, 2014

Comment Number	Comment	Response
14	Comment: A range of alternatives must include actions that remove livestock grazing disturbance and a significant portion of the battery of harmful fences, water developments, salt/supplement and other weed spawning sites from large portions of the landscape in important habitats for sage-grouse, pygmy rabbit and other species conservation.	Response: The proposed action and alternative C both include standards and guidelines that require the removal of fences and other infrastructure associated with livestock grazing negatively impacting bi-state DPS and its habitat.
15	Comment: The agency must significantly reduce grazing levels far below the actual use that has been occurring.	Response: Standard B-RU-S-01 states, "Manage livestock grazing to maintain residual cover of herbaceous vegetation so as to reduce predation during breeding/nesting season within 3 miles of lek sites." Standard B-RU-S-02 states, "Manage livestock grazing in accordance with the utilization standards in Table 2-5."
16	Comment: Please include standards that protect microbiotic crusts, understory components and sagebrush/shrub structure.	Response: See standards B-RU-S-01 and 02.
17	Comment: The use levels that must be applied leave must 9 inches of residual native grass cover across native understory communities.	Response: Researchers studying bi-state DPS (Table 2-1) suggest that grass/forb height is not a factor in nest site selection. Researchers instead cite the need for overhead and lateral concealment as is provided by the sagebrush overstory is one of the primary factors in nest site selection (Connelly et al. 2000; Stiver et al. 2015; Connelly et al. 2003; Hagen et al. 2007)The desired condition has been changed to emphasize lateral and overhead concealment for nesting and brood rearing. See final ROD.
18	Comment: Only one grazing (including trailing) disturbance bout can be allowed annually.	Response: How pastures and allotment units are grazed is outside the scope of this amendment. The desired habitat conditions are described in the final EIS on Table 2-1.

Western Watershed Project Letter Dated October 2, 2014

Comment Number	Comment	Response
1	Comment: This is a portion of the Bi-state habitat, and agencies are artificially truncating updated EIS analysis for populations that span state and admin boundaries. The current DEIS land area has been greatly contracted, apparently to only encompass lands proposed as critical habitat.	Response: As described in the proposed action, amendments apply only to the NFS lands managed by the Humboldt-Toiyabe National Forest and the BLM public lands managed by the Carson City District and the Tonopah Field Office. bi-state DPS habitat on the Inyo National Forest or the Bishop Field Office is managed under resource management plans specific to those areas. In preparation of this analysis, the Humboldt-Toiyabe invited both the Inyo National Forest and Bishop BLM office to participate in the analysis. Both declined.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
2	Comment: The current DEIS land area has been greatly contracted, apparently to only encompass lands proposed as critical habitat.	Response: As can be seen in Figure 2-1, the revised draft EIS delineates the current extent of mapped habitat (Nevada Department of Wildlife) and a project area boundary. Between the draft EIS and the revised draft EIS the mapped habitat increased by approximately 1,950 acres. Between the draft EIS and the revised draft EIS the project area boundary decreased by 2,009,700 acres. The project area boundary still encompasses all mapped habitat occurring on NFS lands managed by the Humboldt-Toiyabe National Forest and the public lands managed by the BLM Carson City District and Tonopah Field Office. The project area boundary was changed to correspond to areas identified as the population management units for the bi-state DPS.
3	Comment: In summary, the immense land area and severe impacts of the massive treatment disturbance - with treated areas receiving 2 minimal rest before intensive livestock grazing is imposed, will end up further harming and degrading BSSG habitats. Desertification, fragmentation, and loss of habitat will expand. Plus the collateral damage to a wide range of other native biota – such as pinyon jay –will be immense.	Response: The project under consideration is programmatic in nature. There are no “massive treatment disturbances” related to the development and application of goals, objectives, and standards and guidelines. Future site-specific projects may have related disturbance, these proposed projects would be based on the direction in the amended resource management plans. The proposed direction is intended to reduce impacts from site-specific activities to the bi-state DPS habitat.
4	Comment: The massive treatments will radically alter and destroy forested habitats, disrupt watershed processes, expose soils to accelerated erosion in wind and water, make sites much more vulnerable to cheatgrass and medusahead and other flammable exotic species invasion – which dooms native understories and recovery potential.	Response: The proposed action and alternatives do not include any site-specific treatments.
5	Comment: This whole flawed process remains based on a flawed TAC Report, prepared by a livestock industry, Grazing Board, and biomass consultant.	Response: Since there is no reference to the Technical Advisory Committee report, it is assumed that references to Technical Advisory Committee refer to the “Bi-state Action Plan: Past, Present, and Future Actions for Conservation of the Greater Sage-Grouse Bi-state Distinct Population Segment”, March 15, 2012, and prepared by the Bi-state Technical Advisory Committee, Nevada and California.
6	Comment: There is an ever-increasing body of scientific studies showing the serious adverse impacts of aggressive vegetation treatments across arid pinyon-juniper and sagebrush landscapes.	Response: The proposed action and alternatives do not include any site-specific treatments.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
7	Comment: Within existing sagebrush, the DEIS poses a significant threat, too. It does not go nearly far enough in requiring basic habitat protection and effective mitigation measures for grazing, energy, mining roading or other activities.	Response: Tables 2-1 in the revised draft EIS describe the desired condition of sage grouse (sagebrush) habitat. Table 2-3 and 2-4 described the goals, objectives, and standards and guidelines under consideration to move sagebrush habitats toward the desired conditions. Many of the standards and guidelines in Table 2-4 provide specific direction related to timing of activity and location of activity relative to leks and nesting and brood-rearing habitat. There are specific standards and guidelines identified for both the proposed action and alternative tied to grazing, energy, mining, and roads, as well as, lands, fire management, and habitat improvement.
8	Comment: EACH and EVERY one of the so-called “Non key issues” of the BSSG RDEIS is instead a Key Issue except perhaps minerals – but if proposed gold mining in the Bodie Hills and within the project area occurs, it would rise immediately to the status of key Issue.	Response: For clarification of the issues section of this final EIS, we considered comments and removed the key/non-key issue categories. As each of those issues was important and each program area was analyzed for impacts by the proposed action, there was no need for the delineation of key/non-key. These changes have been made in chapters 1, 2, and 3 to further clarify the focus of analysis.
9	Comment: The following non-key issues were identified during scoping and brought forward to disclose the analysis to the public. Effects to wildlife: Habitat will be impaired, degraded, altered, destroyed, fragmented and otherwise lost. Effects to range improvements and domestic livestock grazing: This is a Key Issue as grazing is the major land disturbance across nearly all the BSSG habitat. Effects to weeds: Grazing, treatments, OHVs, etc, all alone and combined spread weeds and this will be amplified by the adverse effects of climate change, Effects to wild horses and burros: Across the West, agencies are trying to get rid of horses, while turning a largely blind eye to making large-scale cuts in grazing, and this EIS follows in that vein. Effects to minerals: This has potentially very major impacts. Effects to fire and fuels management: The whole underlying modeling the agencies rely on has never been provided for review and verification that the agencies are using current science and not the long-outdated claims of Miller and Tausch – which is what the TAC used.	Response: There appears to be a fundamental misunderstanding regarding the proposed action. Nothing in the proposed action would have physical impact on wildlife habitat. As for the rest of these “issues,” the proposed action recognized the potential adverse impact from current management and includes standards and guidelines to reduce or remove the potential impact.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
10	Comment: The RDEIS and the underlying documents do not provide the mechanisms to provide adequate regulatory mechanisms and certain and effective habitat and population protection for species viability. The great uncertainty and environmental risk of this proposal jeopardizes the persistence of BSSG populations. It will significantly adversely affect BSSG, other sensitive species, and a host of other values of the public lands. The agencies must scrap the self-serving Specialist reports, and take a true, hard look at the scale of impacts. Of course, to do that, detailed mapping of the areas targeted for treatment must be provided. The public must be told what really is behind the curtain.	Response: While some areas in bi-state DPS habitat have been identified for potential treatment, this project does not analyze or authorize any ground-disturbing activities. It provides the regulatory mechanisms to limit potential impacts to bi-state DPS and habitat as a result of any new, or recently past, proposed activities.
11	Comment: The assumption that impacts of EIS proposed actions are going to be "minor" is not supported by the large-scale adverse effects and "collateral" damage of widespread deforestation and treatments, which may amplify the adverse effects of climate change, along with propelling many other species to declines and potential ESA listing, result in violations of the Migratory Bird Treaty Act, spawn widespread irreparable invasive species problems and a host of other adverse impacts.	Response: The assessment that impacts from the proposed action and alternative would be minor is based on the analysis and the foundation that there are no site-specific treatments or on-the-ground changes tied to the proposed action. We are proposing changes to how activities are planned and implemented. See Table 2-4 for a complete list of the standards and guidelines being proposed.
12	Comment: In fact, grazing and recreation are the primary factors affecting vast areas of sage-grouse habitat, along with past treatments and the tremendous and uncertain/nebulous load of proposed treatments.	Response: Grazing and recreation management activities are two of the factors that can affect sage grouse activities. We have identified standards and guidelines (Table 2-4) to address potential effects of these activities. Implementation of the standards and guidelines would reduce effects from these and other program management activities.
13	Comment: While this may be the case, the agencies artificially constrained the EIS in defiance of public comment, and exclude Bishop BLM Bodie area and Inyo Forest and other crucial sage-grouse habitats, resulting in large-scale uncertainty, including for the largest population with any hope of future viability.	Response: The Inyo National Forest and Bishop BLM opted to not engage as partners in this EIS. Both entities are implementing their own resource management plans or working toward amending their plans. In developing the proposed action we attempted to be consistent with the existing plans on the Bishop BLM to the extent practicable.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
14	Comment: Further, the agencies must take a serious and hard look at the cumulative effects of continued high levels of grazing disturbance, harmful periods of livestock use, motorized recreational activities, mining, geothermal, transmission lines or other development on the remainder of the habitat – both in the wrongly excluded lands in California, across the populations of the EIS including the private and military land footprint of disturbance activities, habitat degradation habitat loss, etc.	Response: These effects are addressed in the final EIS.
15	Comment: We are concerned that the cumulative impacts analyses and areas and baseline data used in analysis and comparisons are not sufficient. The DEIS states the land areas vary by resource specialist. There are a host of problems with these reports – from insufficient land area to use of old, outdated scientific information, to almost non-existent baseline information on occurrence of species, habitat conditions, and population status.	Response: Cumulative effects analysis for this proposed action includes other similar projects occurring on or near the project area. These would include other projects proposing changes to a land and resource management plan, development or adoption of a state or county public land management plan, or other similar actions. The cumulative effects analysis does not include past, present, or reasonably foreseeable actions that have a site-specific set of impacts. This project does not have similar set of impacts. Cumulative effects analysis looks to disclose the individually minor, but collectively significant actions taking place over a period of time (CEQ). Since there are no land-based actions tied to this proposed action, it cannot contribute incrementally to actions that do have impacts from land-based actions.
16	Comment: We are very concerned that the report minimizes the harms that implantation of the series of massive treatments and continued very high grazing disturbance load that may be shifted and intensified in no-sage-grouse habitats will have on a host of other TES species.	Response: There are no “massive treatments” proposed as part of this action. Nor are there proposed shifts of grazing disturbance loads to areas not identified as bi-state DPS habitat.
17	Comment: The necessary current, intensive baseline surveys for species presence, and habitat conditions and connectivity, and the status of populations, has not been properly assessed.	Response: Bi-state DPS habitat condition, connectivity, and population status is well documented in the two USFWS <i>Federal Register</i> publications dated October 28, 2013.
18	Comment: The Forest continues to fail to assess how the EIS amendments may actually serve to diminish existing sensitive species, MIS status species, and other current habitat and population protections. Critical analysis of how the EIS changes may actually enable harmful development of sage grouse and other rare species habitats, and expand imposition of chronic cheatgrass promoting livestock degradation of BSSG habitats must be provided.	Response: The potential effect of the proposed action is analyzed in chapter 3 of the revised draft EIS and in the final EIS.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
19	Comment: The EIS does not satisfy NEPA's hard look requirements that includes a proper environmental baseline (including for all the resources potentially harmed by the grazing treatment and other actions of the EIS).	Response: The only actions in the proposed action and alternative are to amend the resource management plans with a set of standards and guidelines intended to guide future site-specific projects. The baseline for this proposed action is presented in the no-action alternative that displays the existing management direction for site-specific projects.
20	Comment: The DEIS offers weak, uncertain, limited, ineffective Amendments. Some of the amendment actions are already being carried out, or possible, under normal routine agency actions. Thus, there is no need to add weak or uncertain language that allows extensive loopholes for expanding habitat alteration and development.	Response: In the March 2010 listing petition the USFWS concluded that "existing regulatory mechanisms to protect sage grouse and their habitats ... afford sufficient discretion to the decision makers as to render them inadequate to ameliorate the threats to the bi-state DPS". Including the actions that are already being carried out, those already possible and that are already routine agency actions. and including them in the amendment, addresses the issue the USFWS was describing. While the agencies can and do already implement some of the management direction being included in the proposed amendment, there is no requirement to do so. The decision makers can consider implementing a protection measure and then decide to do something else. The proposed amendment removes much of that discretion. If a standard requires a 4-mile buffer, then the decision maker must include that buffer as part of their decision.
21	Comment: At times, this DEIS appears to make matters worse for bi-state sage-grouse through the weakness of the Proposed amendments to the LUPs. The DEIS also does not resolve conflicts between competing uses.	Response: The purpose of the EIS is not to resolve conflicts between competing uses. Its purpose is to analyze the effects of the proposed action and alternatives. The selected action will include a set of management directions (standards and guidelines) that would provide direction for future resource managers in the development and implementation of projects. If conflicts between competing resources are identified during the site-specific analysis, they will need to be resolved at that time.
22	Comment: It ignores consideration of any significant changes to livestock grazing. For example, the grazing actions of the Preferred Alternative, The minimal measures in Table 2-3 are not sufficient to conserve, enhance and restore sage-grouse. For example, there is no riparian trampling standard trigger, and no upland utilization standard that will provide 7 to 9 inches of residual cover for nesting sage-grouse.	Response: The changes to livestock grazing are analyzed on pages 100-107 of the FEIS.
23	Comment: The DEIS forsakes a necessary hard look and detailed analysis of climate change impacts –including in assessing risk of adverse outcomes to the massive proposed treatment, grazing and expanded development disturbance that would be allowed under the proposed Action.	Response: There are no massive proposed treatments in this analysis. There may be treatments in the future. These will be addressed in an individual site-specific analysis.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
24	Comment: This whole flawed process remains based on a flawed TAC Report, prepared by a livestock industry, Grazing Board, and biomass consultant.	Response: Comment noted.
25	Comment: We described these flaws in the 2014 BSSG scoping comments. We described the balkanized GRSG process, and here with BSSG, agencies fail to even analyze a very significant portion of the habitat and population – even within some DPSs. Similarities abound.	Response: Comment noted.
26	Comment: Integrated analysis must be prepared for actual interacting sage-grouse populations. Failure to do so is not compatible with the conservation of habitats and populations that span state lines. It is also not compatible with tracking the fate of individual biologically interacting populations of sage-grouse – including as they blink out. This pattern of analysis fragmentation was repeated in the Bi-state DEIS.	Response: The standards and guidelines in the proposed action and alternative would apply to all portions of the habitat equally. We are not analyzing the potential effects of restoration actions; rather, we are analyzing the effects of proposed management direction on the different programs involved.
27	Comment: The HT DEIS for the Bi-state Distinct Population Segment (DPS) is for only a still undetermined part of the land areas of historic range, and range still occupied by the DPS. This HT Forest and Carson City BLM process (still uncertain if BLM will apply this BSSG EIS or use the NV/E CA EIS) has its own balkanized look and process - with analysis that again stops at the state line in crucial areas where the local population spans the artificial state boundary. It inexplicably omits the crucial Bishop BLM and Inyo Forest lands. The HT DEIS splits one or more PMUs, including the land occupied by the larger population.	Response: The standards and guidelines in the proposed action or alternative are not map-based. They would apply where there is bi-state DPS habitat within the project area boundary whether it is mapped or not. NFS lands or BLM public lands outside the project area boundary would be subject to the management direction in the land use plans covering those areas.
28	Comment: Reliance on this questionable modeling may lull agencies into failure to take sufficiently string and protective actions for BSSG. The Coates model ignores populations that are too small, and focuses on a recent 10 year period only. This ignores the large-scale declines of the past, and the populations that are in very dire need of conservation. It paints a much too rosy picture of the status of BSSG.	Response: The analysis in the revised draft EIS does not rely on estimated populations or the models used to develop the estimate. The standards and guidelines in the proposed action would be implemented regardless of population. These standards and guidelines are included as part of the proposed action to guide projects and activities being proposed in sagebrush habitat. They apply whether there are sage grouse present in the habitat or not. Some serve to enhance or restore habitat, others to conserve it.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
29	Comment: There is uncertainty about whether Carson City and Tonopah BSSG habitats will be covered by the HT EIS, or the BLM EIS. It is important to understand cumulative impacts to sagebrush sensitive species, and to the BSSG DPS that may end up being managed under 4 separate deficient documents: HT DEIS, NV-CA DEIS, old outdated Bishop BLM Plan, and an Inyo Forest Plan that is being developed.	Response: Bi-state DPS habitat managed by the Humboldt-Toiyabe National Forest, BLM Carson City District, and the Tonopah Field Office will be amended based on the analysis in the bi-state sage-grouse final EIS. The Inyo National Forest and the Bishop BLM will follow their current management direction until they amend their land use plans.
30	Comment: Now, in the 2014 DEIS we find that there are BLM lands transferred to the HT Forest for which no analysis has really been conducted. See RDEIS 6-7, describing NV Enhancement Act. The agencies would merely relegate them to the category of the long-outdated Forest plan, ignoring consideration of Zoological Area, RNA, and management emphasis on wildlife and not the host of harmful values of grazing and minerals.	Response: The areas are on the edges of the National Forest and have no value as research natural areas. They do, however, contain sage grouse habitat. This amendment allows them to be brought under Forest Plan management per the requirements of the Nevada Enhancement Act.
31	Comment: Instead, the EIS elevates travel and socio-economics to a higher level. We believe this is because the massive treatments will inflict a horrific adverse unassessed toll and a broad spectrum of wildlife species, aquatic and riparian habitats as well as uplands, greatly increase weed invasion risk and irreversible dominance by flammable annual grasses and other weeds, etc.	Response: There are no proposed massive treatments related to this amendment project. The concerns regarding key issues were addressed above (see response to comments 8 and 23).
32	Comment: It is really dishonest of agencies to propose the very same type of massive tree killing that in the past the agencies have claimed was for livestock forage and/or fuels – and not consider Effects to livestock grazing, Fuels and “Key Issues”.	Response: “Massive tree killing” is not being proposed as part of this action.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
33	Comment: Here in the highly flawed BSSG EIS, agencies fail to consider even an acre for ACEC/Zoological Area or other designations.	Response: The revised DEIS is a Forest Service-lead planning effort and is following the Forest Service planning process. The Forest Service does not recognize or establish areas of critical environmental concern (ACECs). The BLM is a cooperating agency and as such could write a record of decision based on this Forest Service document. The Carson City District has evaluated proposed ACECs for inclusion in their RMP revision. The report titled Areas of Critical Environmental Concern-Report on the Application of the Relevance and Importance Criteria was signed and made available to the public in March 2013 on the Carson City District RMP website. Additionally, the Pine Nut Bi-state Sage Grouse ACEC was brought forward for analysis in the Carson City District draft RMP/EIS. The draft RMP/EIS is out for 120-day public review and comment.
34	Comment: Passive restoration is forsaken in federal and state agency alternatives (with the exception of a small area in Oregon), and in the BSSG DEIS. Closure and/or retirement of livestock grazing allotments is never discussed.	Response: Closure/retirement of livestock grazing allotments would require a site-specific, project-level NEPA decision.
35	Comment: In reality, there are very few public lands livestock ranchers in the bi-state region. There are some large operations, or hobby ranchers, who graze vast areas, such as Hilton Flying M and large and damaging domestic sheep operations.	Response: The number of public land livestock ranchers in the bi-state project area is disclosed in the revised draft EIS and specialist report.
36	Comment: It is designed to rubberstamp a seriously flawed TAC report that is overwhelmingly based on trying to create new habitat by killing trees, and ignoring the effects of livestock grazing.	Response: The Technical Advisory Committee team includes wildlife biologists from the BLM, Forest Service, U.S. Geological Survey, USFWS, and California and Nevada state wildlife agencies. They were brought together because of their expertise and experience studying the life habitat and habitat requirements of the sage grouse. Their efforts are primarily responsible for what is currently known regarding the population and distribution of the bi-state DPS.
37	Comment: It also diminishes Priority habitat geothermal and other protections. It allows habitat to be shaved off – 100 acres per section per year.	Response: The proposed action does not include an action that would incrementally shave off priority habitat. The proposed amendment would allow adjustments to the habitat map as new science provides without requiring a subsequent Forest Plan amendment. This would not diminish “priority habitat” because that is not a classification used for the bi-state DPS.
38	Comment: The BSSG DEIS fails to adequately track the declines in sage-grouse habitat and populations over time. The current Coates model, used by FWS to delay listing action, ignores the populations with the sharpest losses.	Response: The objective of the bi-state DPS plan amendment process is not to track the declines in sage grouse habitat and populations, but to analyze the effects of the proposed action and alternative on the current population and habitat as defined by the current science developed by and for the USFWS.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
39	Comment: Carson City and Tonopah BLM have also issued several grazing decisions during this period that failed to adequately protect BSSG habitats and populations. Plus agencies have renewed an unassessed number of livestock grazing permits under Congressional Riders, without any consideration for the needs of BSSG habitats and conservation of viable populations.	Response: These activities would be authorized under the current resource management plans, interim management direction, and the best management practices described in the BLM National Technical Team report.
40	Comment: BSSG habitats were mapped just as PPH, and it is unclear to us just when this occurred, and how decisions to exclude habitats were made. These concerns have not been analyzed, and rationales and steps to get where we are today continue with the BSSG EIS.	Response: All habitat in the bi-state DPS project area is considered high priority. References to priority habitat in the revised draft EIS were in error and are being removed from the final EIS. The habitat map used in the final EIS was developed by a team of USGS, USFWS, BLM, Forest Service, NDOW, and California Fish and Game wildlife biologists who used 10 years' worth of telemetry data; and lek location, remote sensing, and standardized survey methods; to improve upon the habitat maps developed in the early 2000s. The habitat under consideration includes all habitat areas identified in the mapping efforts completed by that team of biologists. There is no delineation of priority or general habitat per the Nevada sub-regional draft EIS because all habitat (priority, general, connective) is of equally high value. See chapter 2 for more information. The standards and guidelines described in the proposed action and alternative would apply across the entire habitat area. A description of how habitat is defined has been included in the final EIS to clarify this interpretation.
41	Comment: The HT BSSG DEIS relies on the Conservation Objectives Team mapping.	Response: The habitat map used in the revised draft EIS is based on data developed by the Bi-state Sage-grouse Technical Advisory Committee (collection of Federal and state wildlife biologists specializing in the study of the population and habitat of the bi-state DPS).
42	Comment: Now in the 2014 BSSG DEIS, the overall land area covered in the DEIS has been much-reduced.	Response: The area reduced from the project area boundary of the draft EIS was located in eastern Esmeralda County.
43	Comment: The DEIS fails to provide mapping that clearly overlays the changes since Jan 2-14 mapping, and also overlays all the historic range of BSSG for a sound baseline in understanding the severity of occupied habitat constriction over time, and the causes of this.	Response: A new map will be produced for the final EIS that shows the extent of the change in project area between the draft EIS and the revised draft EIS.
44	Comment: The DEIS's focus nearly all their "restoration" efforts on killing native trees and sagebrush, and planting something "resilient" including more exotic species.	Response: There are no restorations efforts proposed in the draft EIS. There is one guideline in the alternative (C-Wild-G-03) that "Remove phase 1 and 2 pinyon-juniper located near meadows and leks during habitat restoration projects."

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
45	Comment: Agency treatments obsess over large-scale deforestation and the continued killing of sage in still-intact occupied lands. They are going to “create” – new habitat, a term actually used in some of the BSSG and Nevada documents we have been reviewing.	Response: There is no reference in the revised draft EIS stating that the goal is to “create” new habitat. The closest reference is in several sections where implementation of the standards and guidelines would “ ... restore native plants and create landscape patterns that benefit bi-state DPS habitat.”
46	Comment: The BSSG DEIS greatly fails to address mitigation actions XXX and how it will interface with any highly flawed politics-laden SEC plan.	Response: Off-site mitigation opportunities will be identified during site-specific NEPA analysis.
47	Comment: While the RDEIS has a new alternative, the agencies have failed to fully and fairly evaluate the benefits of passive restoration and careful, targeted minimum disturbance treatments. No mapping or other information of substance is provided to accompany it – so no valid NEPA comparison is possible. Acres “treated”/outcomes-somewhere, somehow – are the same across both alternatives. Agencies clearly are not serious about changing course from the massive disturbance footprint and status quo grazing and ever-expanding weeds grazing is causing – that was laid out in the closed door TAC.	Response: There are no proposed treatments tied to either the proposed action or alternative. Both alternatives include standards and guidelines that would encourage “passive” restoration.
48	Comment: The DEIS fails to consider and assess the information related to grazing and other impacts on sage-grouse habitats and populations in the Manier et al. 2013 BER.	Response: The ID team reviewed the reference cited and incorporated relevant information to the analysis.
49	Comment: Climate change pressures and elevated risk of failures of massive treatments also requires agencies conduct very careful analysis and minimize risk. This is especially the case in the very arid lands that comprise much of the BSSG habitats.	Response: Climate change may eventually change management across much, if not all, of the bi-state DPS habitat. As it does, the management direction in the land use plans may require further amendment. When the need for those changes and the management solutions are evident, the Forest Service and BLM can amend their management plans to address the changed condition.
50	Comment: Adequate analysis of the risk of the massive deforestation, thinning and treatments in increasing site drying, weed risk and wildfire frequency and risk are not assessed. Nor is there any legitimate analysis of what constitutes a fuels projects vs. a “habitat” project and the scientific basis for making such claims. All of this is not adequately considered in Alternatives and Effects analysis of the HT BSSG RDEIS.	Response: There are no massive deforestation projects proposed as part of this amendment; nor are there any fuels projects. The Forest is analyzing the effects of the proposed action and the resulting change in management direction on current management.

Western Watershed Project Letter Dated October 2, 2014		
Comment Number	Comment	Response
51	Comment: Massively killing and thinning woody vegetation to promote grass often appears to be linked more to livestock forage production and flawed fuels models, than to the needs of BSSG.	Response: The proposed action and alternatives do not include any site-specific actions that would alter vegetation. This is a programmatic analysis that sets up the side bars for future site-specific project work to maximize the benefit to the bi-state DPS habitat.
52	Comment: Recent scientific analysis that contradicts what appear to be the underlying scientific basis for the EIS (which itself has never clearly been delineated by the agencies in the BSSG process) include:	Response: The references will be reviewed and used as appropriate in the final EIS.
53	Comment: Congressional Changes to Public Lands Grazing. There is legislation pending in Congress that would further strip regulatory controls on grazing management. Grazing Improvement Act would extend permits to 20 years, and reduce or do away altogether with environmental review for public lands grazing permits in many instances. This is very harmful, and will allow very harmful practices to continue indefinitely. Potential Congressional Sage-Grouse Wilderness Legislation involving public land disposal to facilitate large-scale mining and other actions, and massive weed-promoting "treatments" are likely as well. Thus, agencies must fully consider that unless they honestly lay out grazing harms and a plan to control grazing in this BSSG EIS, it may be much more difficult in the future to impacts in BSSG habitats if laws are weakened even more.	Response: When these congressional changes occur, the agencies would have to respond accordingly.
54	Comment: This BSSG EIS must lay out a an effective and certain monitoring and change triggers for grazing.	Response: Monitoring protocols for this amendment would focus on the effectiveness of the selected plan components to meet the objectives.
55	Comment: These are ALL Key Issues. This plan, after all, is all about massive treatment impacting wildlife habitat and fuels "management".	Response: The plan is not about massive treatment impacting wildlife; it is about amending the resource management plans and the effects those changes will have on current management activities. With the decision there will be many new standards and guidelines the Forest and BLM will be required to implement. Each is intended to improve bi-state DPS habitat either by implementing buffers for avoidance, restricting activities during limited operating period, or prohibiting certain types of activities. These types of actions would affect access (make it more difficult) and economics, and some activities that were formerly allowed may not be allowed.
56	Comment: Treatment methods are highly uncertain, and are not adequately described.	Response: This is because no treatments have been identified for authorization in this analysis.

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57	Comment: The RDEIS shuffled titles/categories of some provisions, increasing difficult of tracking any actual changes.	Response: Reorganization and renaming some elements in the revised draft EIS was a response to comments on the draft EIS. Reorganization was also required to accommodate the inclusion of an additional alternative.
58	Comment: The RDEIS fails to examine a reasonable range (or any range at all) of goals, objectives, standards, and guidelines for livestock grazing, energy exploration and development, mining and minerals activity, ROWs, treatments, forestry, recreational activities, etc.	Response: Eight alternatives were considered in the revised draft EIS. Of those eight, three were analyzed in detail.
59	Comment: The RDEIS fails to consider that its Proposed Action is not a valid alternative, because it is not sufficiently protective of the needs not only of BSSG but also other TES species.	Response: The proposed action is not required to provide complete protection to the bi-state DPS and other threatened, endangered, or sensitive species. It needs to provide regulatory mechanisms that would help conserve the bi-state DPS and its habitat as part of a region-wide effort.
60	Comment: As described elsewhere, the DEIS fails to reveal and assess the full range of LUP measures (and FRH measures for BLM lands) that protect the soils, microbiotic crusts, native vegetation communities (including forestry values), watersheds, water quality, water quantity and other resources.	Response: As is true with the Forest Plan, if there are no changes to the current standards and guidelines, then they would remain in place. Primarily the proposed action is an additive amendment; adding standards and guidelines rather than replacing the existing ones.
61	Comment: The alternatives fail to provide legroom and latitude to analyze and adopt the suite of management actions (including passive restoration and targeted active restoration) necessary to do anything other than massively disturb sagebrush and pinyon-juniper habitats, while grazing goes unchanged.	Response: There is no massive disturbance action tied to any of the alternatives. There is no need to develop standards and guidelines to not take action. Passive restoration can be accomplished within the framework of the resource management plans by not authorizing certain types of activities to occur, or by making decisions that would implement the standards that required the removal of fences or facilities.
62	Comment: The HT DEIS states that the BLM may use this EIS as the basis for amending their RMP. There is no certainty that the BLM will actually do this. This is unclear and opaque. We urge the BLM to withdraw from this greatly deficient HT EIS. The whole thing makes no sense. Very significant National Forest and BLM lands in California are omitted from the Bi-state EIS altogether.	Response: The BLM will base a decision to amend their resource management plans on this final EIS.
63	Comment: The Forest must prepare a Supplemental EIS to take a full, fair and hard look at a reasonable range of alternatives.	Response: As we have not prepared a final EIS yet, there is no need to prepare a supplemental EIS.

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64	Comment: The Forest must fully evaluate WWP's alternative and mitigation actions (already submitted separately) which include significant passive restoration of occupied BSSG habitats, and careful, targeted removal of trees in areas of importance to sage-grouse, not destroying trees over vast areas on slopes or habitats unlikely to be used by grouse. This must be done with selective handcutting, and only under very exceptional circumstance, other mechanical methods. A minimum of an EA or EIS must be prepared.	Response: Since the removal of trees is not part of this undertaking, we can only partially consider your alternative. The submitted alternative will be considered, and where appropriate, consolidated into an alternative.
65	Comment: The no-action alternative represents the baseline for analysis ... WWP commented in Scoping that extensive information on baseline environmental conditions across the project area must be provided.	Response: While not the sole source of baseline information, the bi-state DPS action plan (Nevada Department of Wildlife 2013) includes much of the baseline source material.
66	Comment: The socioeconomic part is really baffling. It represents the current level of access and the current state of the economy. Any changes from those current states can then be used to measure the amount of departure that would result from the proposed amendment. What does this actually mean? Please clarify what is being said here, and the full underlying rationale.	Response: NEPA discloses the effects of the proposed action and alternatives. In this case the question is "What are the effects of the proposed action (a set of goals, objectives, standards and guidelines intended to reduce potential impacts to sage grouse habitat from a wide array of multiple use activities) on the economy of the seven counties with portions of the project area?" Currently (no action) there is the status quo for management activities in bi-state DPS habitat. Minerals operators, outfitters and guides, and range permittees all know what is required of them to protect habitat if they want to move their proposed projects through the NEPA process. Under the proposed action there is less clarity regarding the impact that the new standards and guidelines might have on the ability of operators to successfully meet their goals. That equates into a potential economic impact both to the individuals and to the counties. The difference between what is currently possible under the no-action alternative and what may/may not be possible under the proposed action or alternative is what is being analyzed to determine potential effects.
67	Comment: Now, this current EIS limits its primary analysis to the extraordinarily limited and tangential "Key Issues". Plus the info related to the two Key Issues (access and socioeconomics), as well as the rejected Issues, are not a proper environmental and resource "baseline", as the EIS also claims, under NEPA.	Response: "Non-key issues" does not translate into "rejected issues". All of the non-key issues are analyzed in detail in the "Environmental Consequences" section of the revised draft EIS (wildlife in particular). Also, see response to comment number 8.

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68	Comment: What is the current condition and baseline of the soil, microbiotic crust, native vegetation communities, watersheds, ground and surface waters, forestry, and other resources that the plan is to manage, oversee, guide? And what are these conditions across the entire range of the BSSG?	Response: Current physical conditions are not part of the current analysis. The analysis "What are the effects of the proposed action?" focuses on the effects of the proposed action on the existing programs. The questions being asked by the resource specialists is not "How do my resources effect sage grouse, microbiotic crusts, or native vegetation?" But "How does the proposed action effect the management of my program?" The need then is not to know the current condition of the baseline soil data but to know the baseline for soil program management. That baseline is the current management direction.
69	Comment: The Forest presents startling information on the population of sage-grouse on Forest lands at the time of the Toiyabe Plan. Earlier DEIS 129, HTNF Guidelines Current: 36,900 min/max 3900/40,000 sage-grouse. What does this "min/max" and provision mean – limits below which the population will not be allowed to fall?	Response: The current Forest Plan included a range for the population across the entire Forest. It did not specify the population of bi-state DPS. This information is summarized in the "Wildlife" section of the final EIS and in the resource documents.
70	Comment: The EIS lacks vital information and analysis linking it to the current status of resources and affected habitats, populations, watersheds, allotments, pastures, degraded conditions caused by facilities, cumulative effects of overlapping fences, water developments, roads, etc in the same land area or affecting the same lek, nesting, or wintering habitats, etc. analysis of the site-specific location in regards to important or crucial seasonal, restoration, or other sage-grouse habitats.	Response: This is not "vital information" for the analysis being conducted. "What are the effects of the proposed action on the resource programs?" Some of the information is available and disclosed in the wildlife section of the final EIS because that is where the effects of the proposed action on sage grouse is disclosed.
71	Comment: Understanding Vacant Allotments Is Crucial. This EIS should take the opportunity to close all vacant allotments to provide for passive restoration and conservation of BSSG and other TES species habitats and populations.	Response: This is a programmatic EIS addressing the need to provide regulatory mechanisms. Site-specific decisions to close vacant allotments or reduce the number of AUMs (animal unit months) across the planning area without the site-specific baseline data is outside the scope of the analysis. These decisions can be made in the future when site-specific NEPA analysis is completed for the individual allotments.
72	Comment: Grazing disturbance is a high level threat.	Response: The proposed action and alternative include management direction intended to decrease the potential impact of livestock grazing on bi-state DPS habitat.
73	Comment: The earlier BA is as minimal and simplistic as this DEIS. The latest BA is still plagued by similar deficiencies for TES and MIS species.	Response: The final BA will correct the inaccuracies along with the final EIS.

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74	Comment: Capability and Suitability Analysis Needed for BSSG Process, Across All Forest and BLM Lands to Determine Sustainable Level of Use, Need for Closures and/or Land Withdrawals	<p>Response: The 1982 planning regulations at 36 CFR 219.20 requires that during forest planning a determination is made of "the suitability and potential capability of NFS lands for producing forage for grazing animals and for providing habitat for management indicator species... The present and potential supply of forage for livestock, wild and free-roaming horses and burros, and the capability of these lands to produce suitable food and cover for selected wildlife species shall be estimated. The use of forage by grazing and browsing animals will be estimated. Lands in less than satisfactory condition shall be identified and appropriate action planned for their restoration."</p> <p>This requirement was met during the development of the Toiyabe National Forest Land and Resource Management Plan. Validation of the determination is conducted at the allotment scale to ensure the requirement in 36 CFR 219.20 (1982) that lands are "managed in accordance with direction established in forest plans." Direction that will affect the allotment-scale validation would include this amendment.</p> <p>In 2008 the Forest published an updated Management Indicator Species (MIS) Monitoring Report to demonstrate Toiyabe National Forest Land and Resource Management Plan (Forest Plan) compliance with 36 CFR 219.20, regarding MIS habitat capability and suitability in relation to capable grazing lands. That report focused on the following issues: (1) the assessment of the potential effects of grazing on MIS; (2) to link management of these species with Forest Plan direction; and (3) to identify restoration needs for MIS species consistent with the Forest Plan. The greater sage-grouse was identified as a MIS in the Toiyabe National Forest Land and Resource Management Plan (Toiyabe Forest Plan).</p> <p>The current Plan-level analysis is sufficient for the purposes of determining the potential effects of the proposed action on the livestock management program. It is also sufficient to determine the effects of the proposed action on the Wildlife species in the "Wildlife" section including the bi-state DPS. Validation of the capability and suitability determinations will be made as needed at the allotment scale or project scale through allotment or project-specific analysis to ensure the management of the allotment or the project is consistent with the direction in the Forest Plan.</p>

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75	Comment: Agencies MUST consider closing portions of allotments with significant resource conflicts, yet the No Grazing alternative, which the agencies will never adopt in entirety - does not take a true sustainability, capability and suitability look at use and conflicts.	Response: Closing all or portions of allotments requires site-specific analysis of the effects of that proposed action on the resources in and around the allotment, on the permittee, and on the impacts to the remaining portions of the allotments where livestock grazing would continue to be authorized. This programmatic analysis takes a broader look at the management of resources in the bi-state DPS grouse area as a result of the direction, including standards and guidelines, identified in the proposed action. A site-specific decision to close all or portions of a grazing allotment would be made with analysis at the allotment scale.
76	Comment: We note that an honest analysis of allocations and capability and suitability must be part of the No Action Alternative, and is necessary for the Forest to develop a suitable range of alternatives.	Response: See response directly above.
77	Comment: The EIS fails to provide evidence of what utilization typically is at agency monitoring sites. Plus, we are very concerned that agencies might dumb this down further – the NV E CA GRSG DEIS makes reference to standards only if failing to meet the FRH. This invites abuse. It must be assessed under cumulative effects.	Response: “Levels of grazing” is not a cumulative effect. Cumulative effects analysis for this action includes other large-scale programmatic changes that may be occurring in the same time frame or in the same place as this proposed action. The Inyo National Forest Land and Resource Management Plan Revision is an example of the types of actions that are addressed in the cumulative effects analysis.
78	Comment: There are no standards to protect sagebrush or microbiotic crusts. There are no standards requiring use and trailing be kept several miles from nesting habitat during nesting periods.	Response: The proposed action and alternative include standards and guidelines that address threats to the bi-state DPS. These threats have been identified in the October 2013 USFWS propose listing.
79	Comment: This Carson City Churchill EA demonstrates the regulatory failures of BLM grazing management, where if there is still a bit of forage left, BLM will try to increase the amount of grazing, no matter what it may conflict with. The impacts of this broken paradigm where needs of sage-grouse take a back seat to cattle having access to forage, must be changed, and the BSSG takes no sufficient effective concrete actions to do so.	Response: The proposed action and alternative include reduced utilization on uplands and riparian systems, timing restrictions to limit potential impacts from livestock grazing, and other activities nears leks, and buffers to provide protected areas around leks during breeding.
80	Comment: We became aware of large-scale predator killing occurring apparently in portions of the BSSG range – potentially aimed at inflating population counts to try to prevent listing. How was that factored into the Coates BSSG model?	Response: The Forest is not aware of any “large scale” predator control actions taking place in the bi-state DPS habitat. As the model focused on telemetry, remote sensing, field reconnaissance, and vegetation mapping, it is doubtful that a short-term predator control action (if one occurred), would have much effect, if any, on a model.

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81	Comment: This BSSG EIS must prohibit raven poisoning and predator removal except in the most extraordinary of circumstances and then only after a wide variety of non-lethal methods have been used.	Response: The decision to poison or otherwise remove predators from national forest system and BLM lands is outside the scope of this analysis. Those decisions are made by the USFWS, Nevada Department of Wildlife, and California Fish and Game.
82	Comment: The non-lethal methods must start with keeping livestock separated from sage-grouse breeding habitats from March 1-June 30. Calving on public lands must be prohibited, Dead livestock must be removed from the area where at all feasible, etc. No artificial upland water - troughs from pipelines, and water haul - should be allowed in BSSG habitats from March 1-June 30.	Response: Standard B-RU-S-01–Manage livestock grazing to maintain residual cover of herbaceous vegetation during breeding and nesting season (March 1 to June 30) within 3 miles of active lek sites should address these concerns.
83	Comment: In the RDEIS, the agencies continue to refuse to amend the California Inyo Forest and Bishop BLM Land Use Plans, and now also fail to include lands outside the critical habitat proposal so that recovery can occur.	Response: In order to amend the INYO Forest plan or the Bishop RMP the agencies' decision makers need to agree to participate in the planning effort. The Inyo declined because it was in the process of Forest Plan revision. The Bishop BLM declined because they already have adequate management direction in their RMP. The USFWS agreed with their assessment. No "critical habitat" is being excluded from the analysis area covered in this final EIS.
84	Comment: The DEIS Appendix contains a listing of some of the Inyo and Bishop LUP requirements. These are highly inadequate to provide the necessary protection for sage-grouse seasonal habitats and ecological requirements (intact crusts, forbs, native grasses, structurally complex and sufficient shrubs, and to prevent weed infestation). They are inadequate to protect against the footprint of energy, mining and other development as well. See Braun 1998 Braun 2006, Gregg et al. 1994, Connelly et al, 2000, Connelly et al. 2004, Manier et al. 2014. The full adverse indirect and cumulative effects of these deficiencies on habitats and viable populations must be assessed. Any losses in these areas jeopardize the viability of the DPS, and may result in further range contraction.	Response: The management direction found in the Inyo National Forest LRMP and the Bishop BLM RMP is included as part of the cumulative effects analysis.
85	Comment: A larger land area must be considered as habitat, including lands not in the vicinity of leks and lands necessary to fully buffer sage-grouse habitats from development impacts –such as massive geothermal projects, solar projects, mining, etc. The block of land must be identified as PPH.	Response: The proposed amendment would apply to all habitats as mapped by the USFWS, Nevada Department of Wildlife, and California Fish and Game. The proposed action applies the buffers to protect that habitat recommended by the wildlife agencies. The proposed action also applies to connective habitat. There is no requirement to identify priority primary habitat (PPH) in the amendment. For the bi-state DPS, all habitat is considered equally important.

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86	<p>Comment: We are very concerned that mining, geothermal or politically connected ranching or other interests may exert pressure to cut areas out of, and further fragment PPH. In fact, the DEIS contains a development hole that would allow large-scale and incremental development and fragmentation of habitats. The DEIS states:</p> <p><i>Updates may become available on an annual basis as monitoring and mapping continues.</i></p> <p><i>The proposed amendment would allow small changes, less than 100 acres per section ...</i></p>	<p>Response: The draft EIS did include the above-referenced clause. That has not been carried forward in the revised draft EIS or in the final EIS. Instead the current documents include the following, "The proposed amendment would allow adjustments to the maps as new science provides without requiring a subsequent Forest Plan amendment." The maps would only change when new science, new survey information, new telemetry studies conducted by agency biologists or published in peer-reviewed journals illustrates that a change is warranted.</p>
87	<p>Comment: It appears that now the RDEIS Preferred Alt has an inadequate 3 percent disturbance cap with disturbance narrowly defined, and 1.5 percent in the Pine Nut PMU in the Alternative comparison Tables. But the EIS has not critically assessed whether these (or any other) BSSG populations can actually withstand ANY additional disturbance. Plus the disturbance does not include livestock grazing facilities and impacts, or fire and treatment effects. ALL of these must be part of this – and that includes the massive disturbance of treatments.</p>	<p>Response: The final EIS will include additional clarification of the how the disturbance caps are applied including what is considered disturbance.</p>
88	<p>Comment: RDEIS Table 2-1 shows "Desired" Habitat Conditions. How much habitat currently meets these criteria, and where is it located? Please provide mapping.</p>	<p>Response: These are "desired" habitat conditions; there is no map.</p>
89	<p>Comment: Where is there potentially suitable unoccupied habitat with the slope, terrain, topography, and juxtaposition of brood-rearing and other features to support sage-grouse populations?</p>	<p>Response: Sagebrush habitat with scattered pinyon to phase I pinyon may be suitable and unoccupied habitat. Removing the isolated trees could make that habitat more desirable.</p>
90	<p>Comment: This HT DEIS, like the whole series of DEIS's issued by agencies across SG ranges, shies away from clear identification and delineation and solid actions for restoration of those degraded habitats, including areas like seedings. It attempts to create habitat at higher elevations and often in rugged terrain not suitable for any significant amount of sage-grouse use.</p>	<p>Response: As a programmatic analysis of proposed goals, objectives, standards and guidelines, there are no project-specific actions. The delineation of "solid actions" will be presented as site-specific proposed actions, at which time the analysis will consider whether the proposed treatments are suitable for the location where proposed.</p>
91	<p>Comment: A grouse-based Capability and Suitability analysis must first be done – to assess if lands where agencies claim they can expand habitat into <u>are really capable and suitable</u> for expansion of sage-grouse habitat.</p>	<p>Response: There is no requirement for a "grouse based capability analysis." Proposed actions will be based on the purpose of and need for the action.</p>

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92	Comment: Plus the conflicts with other resources and LUP protections for those resources must be fully addressed. The hopes for creating new habitat must also be examined in light of the significance of the adverse impact of trying to “create” new habitat on watersheds, cultural resources, wild lands/Wilderness, sensitive species like pinyon jay and ferruginous hawk, migratory birds, etc.	Response: Comment noted.
93	Comment: Sagebrush communities are large and intact. WHERE are they large and intact at present across the lands inhabited by the DPS?	Response: This is a general statement regarding the desired habitat conditions for sage grouse. The table was updated between the revised draft EIS and final EIS to provide more specifics.
94	Comment: If agencies are interested in large and intact habitats – then fencing, livestock water developments, unnecessary roads, etc. should be targeted for removal, especially in the most important habitat areas.	Response: The proposed action includes standards and guidelines for the removal of fences, and for the removal of unneeded facilities and roads.
95	Comment: RDEIS states cheatgrass will be “limited” – what is limited and how can this realistically be accomplished under the bloated livestock numbers and use allocation, plus all the treatment disturbance to be imposed?	Response: This is from Table 2-1. The table was updated between the revised draft EIS and final EIS to provide more specifics.
96	Comment: <i>Riparian areas are managed for proper functioning condition, have diverse species richness, including perennial forbs; a perimeter:area ratio of 1 to 6.667 (0.15); and hiding cover around the edge.</i> Where are these riparian areas located? Proper functioning condition is a bare minimum, and the goal should be to improve aquatic habitat condition as well for other values.	Response: From Table 2-1. The revised table provides objectives based on bi-state DPS needs.
97	Comment: How will agencies deal with the plethora of damaging and poorly developed springs, harmful band-aid riparian exclosures that result in shifting and intensifying impacts to any unfenced mesic areas – both in the vicinity of the fencing as well as across the landscape? We are also concerned about managing for an artificial ideal-given the very reduced condition of the remaining wetted/meadow areas. See WWP GRSG EIS scoping comments.	Response: As locations are identified that do not meet the desired habitat condition, the agencies will prioritize restoration work to improve condition. A desired habitat condition table was created by an Interagency team of wildlife biologists specializing in sage grouse and DPS biology and supported by peer-reviewed scientific literature.
98	Comment: <i>Soils are stable and hydrological function is intact.</i> What does this mean? It remains vague, nebulous, and only references soils and not microbiotic crusts in the RDEIS Table 2-1.	Response: There is no soil component included in the revised desired habitat conditions table.

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99	Comment: <i>The native plant community is resilient, with the appropriate shrubs, grasses, and forbs, as identified in the ecological site description.</i>	Response: The revised desired habitat conditions table does not include this element.
100	Comment: <i>The extent and dominance of invasive species, including cheatgrass, is limited. How is limited defined?</i>	Response: The revised desired habitat conditions table does not include this element. Areas meeting desired habitat conditions would have less than 5 percent of an annual grass component.
101	Comment: RDEIS Table 1 now has “annual grass cover is less than 5%”. Where in BSSSG habitat is it currently greater than this amount?	Response: The table describes desired habitat conditions. It provides a series of measures to judge habitat. There are many locations that include an annual grass component greater than 5 percent. There are other areas where this component is not present at all. Over the life of this plan amendment, one goal is to reduce the annual grass component to less than 5 percent.
102	Comment: <i>There is no conifer encroachment within line-of-site [sic] of leks or nesting areas; there are less than 3 to 5 trees per acre in other areas (Connelly et al. 2000). What distance is “line of sight”? All kinds of different numbers are being used around the West. If the reason grouse avoid trees is predator perches, how does 3 to 5 trees differ from a greater density? Now in the RDEIS this appears to have gotten worse – as Table 2-1 would enabling killing all trees within “line of sight or within 4 miles”. Or means ANY tree – no matter how steep the slope or unlikely a site to be used by grouse may be.</i>	Response: The revised desired habitat conditions table does not include the same buffer distance. It also does not require removal; it is used as a measure of habitat quality.
103	Comment: <i>There is adjacent sagebrush cover Connelly et al. 2000, Blomberg et al. 2012). So where is analysis of the amount of habitat that is present that has this sagebrush cover? What is ecological condition? How is chronic livestock grazing impacting the cover – such as reducing the structural complexity of the sage?</i>	Response: The revised table provides a measure to determine where sagebrush cover meets desired habitat conditions. Determining where desired habitat occurs requires site-specific analysis. Table 2-1 in the revised draft provides tools the districts can use to determine if a location is at or moving toward the desired sage grouse habitat conditions. Site-specific NEPA analysis and subsequent decisions would move areas not meeting these desired conditions toward the desired. Knowing where these conditions are occurring now is not as important in this analysis as providing tools to those in the future to determine the conditions on the ground.

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104	Comment: <i>No trees or other structures taller than the surrounding vegetation community are within line-of-sight of the lek or within 3 kilometers (about 1.9 miles)(Connelly et al. 2000; Doherty et al. 2008).</i> This has been expanded to 4 miles (7 km.), as discussed above. The figures given for grouse avoidance are all over the place. The Great Basin landscape is full of rapid changes in slope, elevation, topography etc. Applying a blanket measure to promote large-scale deforestation of sites that are naturally PJ sites on mountain slopes makes no sense. Sage-grouse are native to the Great Basin, as are PJ.	Response: The buffer in the revised table has been decreased to 0.53 miles. The measure is not a prescription for future action but a measure to determine habitat condition.
105	Comment: RDEIS Table 2-1 Lek Action <i>There is adjacent sagebrush cover Connelly et al. 2000, Blomberg et al. 2012).</i> So where is analysis of the amount of habitat that is present that has this sagebrush cover? What is ecological condition? How is chronic livestock grazing impacting the cover – such as reducing the structural complexity of the sage?	Response: The table in question is only a description of the condition of desired lek habitat. The desired habitat condition table has been revised between the revised draft EIS and final EIS.
106	Comment: RDEIS Table 2-1 Nesting Action <i>Sagebrush canopy cover is greater than or equal to 20 percent; species composition includes Artemisia tridentate.[sic -a].</i> This is slightly changed in the RDEIS - canopy is greater than 20 percent. We are concerned that the Forest has omitted a large number of studies that show that bi-state grouse often rely on sagebrush, and sagebrush-bitterbrush plant community cover of 40%. By failing to include a higher range – the DEIS opens the door for large-scale manipulation and "treatment" of habitats by range staff seeking to plant livestock forage grass that is likely to spawn cheatgrass.	Response: The table in question is only a description of the condition of desired nesting habitat. The desired habitat condition table has been revised between the revised draft EIS and final EIS.
107	Comment: Sagebrush canopy cover is greater than or equal to 10 to 25 percent (Connelly et al. 2000). This, and all of these percentages, must be placed in the proper context in the landscape. Often sagebrush communities are complex and heterogeneous. For example, low sage communities on shallow rocky soils may have ample forbs.	Response: The revised desired habitat conditions table addresses the context issue.

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108	Comment: Will the DEIS be requiring livestock removal, so that passive restoration of native forb understory components in arid sites can occur? Please detail the DIFFERENCES between the Proposed Alternative and Alt C, the new Alt.	Response: No, the proposed amendment does not include a requirement to remove livestock. The alternative would close areas identified as habitat to livestock grazing.
109	Comment: The RDEIS percentages have been changed somewhat –and there is no explanation for why.	Response: The percentages have been changed in the final EIS. This is in order to align them better with the science supporting the desired conditions. It is also to move away from a general description of desired habitat to a more site-specific description of what habitat for leks or brood-rearing should look like.
110	Comment: Sagebrush canopy cover is greater than or equal to 10 percent [this should be much greater –as the original work referred to sage above snow]; height is greater than or equal to 25 centimeters (about 9.8 inches); extent is greater than 85 percent of area; species composition is <i>A. tridentata</i> greater than 50 percent, <i>A. arbuscula</i> equals 25 percent, and <i>A. vaseyana</i> equals 25 percent (Connelly et al. 2000; Coates et al. (a) [in] (sic)	Response: The revised final EIS table includes the above snow measurement.
111	Comment: Table 2. The definition of the breeding period here differs from what is cited elsewhere. Doesn't the breeding period span both lek and nesting, as well? It also appears to differ from the definition used later in the EIS – where "breeding" period is the lekking period plus the nesting period.	Response: The time frames and the breaks were provided by the sage grouse Technical Advisory Team specifically for the bi-state DPS. It is important to note that the season begins March 1 and ends June 30. To be followed by late brood-rearing into September.
112	Comment: We support the identification of clear expanded biologically correct and meaningful time periods plus others as critical disturbance periods. This must be expanded to provide for Winter as a critical disturbance period, as well. Livestock grazing must be recognized as a disturbance – herding, dogs, vehicles, all may displace sage-grouse, and increase predation due to flushing and displacement of birds.	Response: We believe this calendar is sufficient for the identification of critical disturbance periods.

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113	Comment: Disturbance by livestock, if any continues following a Capability and Suitability analysis that addresses sage-grouse and other TES species habitat needs, should be limited to a late summer-fall period. See Braun 1998, 2006 - and only imposed then if the population is at a level where habitat degradation or potential loss or displacement of birds will not cause a significant impact or pose a significant risk.	Response: The time frames describing when livestock grazing is permitted is specified in the term grazing permits. If there is a need to reduce the time period, site-specific NEPA analysis will inform that decision.
114	Comment: The same massive treatment Goals and Objectives appear to be present across the alternatives (preferred action and the new Alternative). Is that the case?	Response: They are not "treatment goals and objectives" but habitat goals and objectives. While vegetation treatments may be used to move habitat toward the desired condition changes in management (passive restoration activities) may also be implemented to each the desired conditions.
115	Comment: Please explain how and where passive vs. active restoration will be applied, and the type of active restoration under both Alts.	Response: Roads no longer open for motor vehicle use may be allowed to grow over when the center line vegetation is well established instead of mechanically ripping the road and replanting it with native seed.
116	Comment: WHY is there not a No Grazing disturbance from March 1 through June 30 (approx.) habitat security Desired Condition? See Braun 2006, various Coates and other studies showing livestock disturbing nests, and eggs, flushing birds and even eating GRSG eggs.	Response: This is because livestock grazing was not identified as a major threat to sage grouse in the USFWS October 23, 2013, proposed listing.
117	Comment: We are concerned that the DEIS Preferred Alternative Goals and Objectives (Table 2-3 of RDEIS) allow for Sage-grouse populations to Significantly Decline over the next decade as 200,000 acres are "treated".	Response: That is certainly not the intent. Potential effect of the treatment actions will undergo rigorous site-specific analysis to avoid impacts to sage grouse.
118	Comment: WHERE are these 200,000 acres? Please provide mapping and analysis.	Response: Some of the treatment areas are identified in the bi-state DPS action plan. This EIS to amend the RMPs is not the place for analysis of potential future treatment projects that have yet to be fully described. Analysis for those treatments will undergo site-specific NEPA analysis once a proposed action has been identified.
119	Comment: Is the population decline due to massive biomass cutting, chopping, hauling, and road building disturbances? Accompanied by non-stop livestock grazing monitored in many areas by the TAC Report consultant?	Response: Recent population analysis does not support a population decline. However, the state of the population is described in some detail in the USFWS October 2013 proposed listing.

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120	Comment: The DEIS' Alternative in the first DEIS in Objective 1 B below: "by 2024, Bi-state sage-grouse populations will be at or above current levels". This implies that there will be a point when they drop – as a result of the massive vegetation treatments.	Response: No it implies that the population will remain stable at its current levels or it will increase.
121	Comment: Please also define the current baseline level you are using. Is it 2014 and the prior decade leks counts? Is it the old Garton 2000 and prior decade numbers?	Response: We are using the current sage grouse population data.
122	Comment: How is the Ecological Site Potential defined? Is it mature and old growth big sagebrush communities? What is the composition of all components of the sites that are to be used? How are the sites developed?	Response: How ecological site potential is defined will depend on what methods are available at the time the assessments are being conducted. Primarily the goal of any assessment will be to determine how well the location is or is not meeting the desired conditions for sage grouse habitat.
123	Comment: Objective 1a: By 2024, 200,000 acres of degraded priority habitat has been improved through changes in management or restoration to meet habitat objectives. How is improved defined? Is it the sage and trees have been destroyed and dirt and cheatgrass, or dirt and various grass and minimal sage predominates – as occurs in the aftermath of Ely BLM treatments of the type the DEIS is proposing?	Response: The DEIS is not proposing any treatments. "Improved" would be defined by comparing how well an area met desired condition before treatment and how well it meets desired condition after treatment. Desired condition is described in Table 2-1.
124	Comment: The ROD for the HT DEIS should immediately amend grazing permits, and put in place much more protective terms and conditions and seasonal avoidance across large blocks of habitats.	Response: The site-specific data required to make a decision to amend the grazing permits for all the allotments that include bi-state DPS habitat is not available. That decision will need to be at the allotment level.
125	Comment: How much of the 200,000 acres will be vegetation treatments vs. "management"? Is this referring to travel "management", while ignoring grazing management?	Response: There is no threshold set regarding how the 200,000 acre target may be met.
126	Comment: What will the treatment be? Will it be using the existing <i>Artemisia</i> canopies (as described in Reisner below) to provide for native forb and grass recovery under both passive and active restoration?	Response: Because there are no treatment projects proposed as part of this analysis, determining what the treatment will be is speculative. There are opportunities for both passive and active treatments. Which treatment will be used and where will require a site-specific analysis of a proposed action.

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127	Comment: Standard 1a states “ <i>promote the maintenance of large, intact sagebrush communities</i> ”. The commenter asks a set of questions regarding the Standard. Where are these currently found at present? Where will treatments occur to expand them? What is the terrain, topography, elevation, etc. of the sites where the EIS hopes to expand habitat? How will the quality of the existing habitats be improved by passive restoration (which appears nearly entirely ignored here)? By active restoration? What is large? To what degree will treatments (including mosaics) degrade and destroy these still-undefined attributes?;	Response: Standard 1a in the draft EIS is now identified as B-Wild-S-03. The standard applies where “large intact sagebrush communities occur and where any number of diverse actions may be proposed in the future that could reduce the extent of the large intact sagebrush community.” Because of the variability in topography, elevation, and terrain, these have not been mapped. The commenter also asks questions about future treatments and efforts to “expand” habitat. The only place where the “expansion of habitats” is referenced in the revised draft EIS is in A1: Interim Conservation Recommendations for the Greater Sage-grouse and Its Habitat, Forest Service Regions 1, 2, and 4. The Proposed standard does not advocate one type of treatment over another, the standard provides a set of project goals for future, undefined, habitat restoration projects.
128	Comment: This does not even ensure existing blocks of sagebrush will maintained. All that will be done is that they will be “promoted”. This is meaningless.	Response: As a standard (B-Wild-S-03) requires habitat restoration projects to meet one or more of the habitat needs included. The promotion of “large intact sagebrush communities” is one of those habitat needs. Other standards work to preserve large intact sagebrush communities.
129	Comment: Agencies must consider managing to maximize native community ecological conditions, including extensive use of passive restoration.	Response: The intent is to maximize large intact sagebrush communities where they are appropriate. The standard does not limit the methods employed to promote these conditions. Passive restoration actions are a potential tool that can be used.
130	Comment: <i>Limit the expansion or dominance of invasive species, including cheatgrass.</i> It is hard to understand how this will be effectively done. Monitoring and indicators in Table 2.6 do not appear adequate to achieve this, especially with the continued tremendous grazing load staying the same (actually far above actual use).	Response: Sometimes, doing the bare minimum to maintain habitat will be the best action we can take to limit the expansion of noxious and invasive species. By including this as a habitat restoration need in the RPMs, decision makers will be required to consider the potential effects of their proposed habitat restoration actions and take actions to limit the expansion or dominance of invasive species.
131	Comment: The Forest claims the amendment deals primarily with only two Key Issues that are not the primary cause of the significant increase in areal extent and understory/site composition of cheatgrass to the degree that livestock grazing is – i.e OHVs and the baffling “socioeconomics”. Livestock disturbance amplifies cheatgrass risk.	Response: The revised draft EIS identified two key issues for analysis. This does not mean that there are only two issues threatening the bi-state DPS. There are many threats. These have been documented in the Bi-state Action Plan and in the USFWS October 28, 2014, proposed listing. The final EIS studies the potential impact of the proposed amendment not on the sage grouse but on the management of the Forest resources affected or potentially affected by the proposed amendment.
132	Comment: <i>Maintain or improve soil site stability, hydrologic function, and biological integrity.</i> See comments above. In what manner, and to what degree, will livestock grazing disturbance to soils, microbiotic crusts, waters, watersheds, sage-grouse and other sensitive species habitats, etc. be controlled?	Response: This standard B-Wild-S-03 describes the side boards put in place to guide habitat restoration projects. How soil site stability, hydrologic function, biological integrity, and native plant community are maintained or improved would depend on the type of project being proposed and the BMPs in place to protect improve resources. Resting project areas from livestock grazing for a period of time is one method that may be used to protect native plant communities.

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133	Comment: There is no commitment to effective passive restoration and healing of any kind. The treatment of 200,000 acres – if active methods are used - will fragment and destroy sagebrush in treatments as well as by collateral damage, or escaped fire or weed spread from adjacent scorched earth PJ treatments. At the same time as it plans to treat sagebrush, it plans massive highly invasive treatment disturbance of PJ communities as well- further promoting invasive species spread and dominance across the BSSG habitats.	Response: Potential effects of future proposed habitat improvement projects will be analyzed at a site-specific level. The standard B-Wild-S-03 is intended to help guide those future projects to minimize any potential collateral damage.
134	Comment: Grazing is to be imposed with no substantial changes at all under the DEIS amendments. The DEIS analysis is devoid of any critical or hard look at the full battery of grazing harms caused to soils, hydrologic function, and biological integrity caused by grazing, or how the existing degree of desertification, drought and foreseeable climate change effects will thwart this and other objectives, and elevate cheatgrass risk.	Response: The revised draft EIS and final EIS include an alternative that would close allotments containing bi-state DPS habitat to livestock grazing. The proposed action reduces the utilization standards currently permitted and sets timing limited operating period to reduce potential impacts to sage grouse and sage grouse habitat.
135	Comment: The measures related to grazing are found at Table 12. They do not even really seem to reflect some minimal measures of the IM. The IM pretty much regurgitates and describes what occurs already under BLM FRH and other processes.	Response: Table 12 is located in the draft EIS. It was not carried forward into the revised draft EIS or final EIS.
136	Comment: Since the entire EIS is based on this expired IM, then it is predicated on an unrevealed amount and location of shifted and intensified use.	Response: The EIS is not based on the Interim Direction, rather on the no action or current management direction that includes the resource management plans, the IM, and the implementation of BMPs.
137	Comment: In fact, livestock grazing causing harm, degradation, impairment, etc. can and MUST be changed by agencies under FLMPA to prevent undue degradation, as well as under NFMA. The “proposed action” here is some unclear and uncertain changes to where/when livestock could graze in habitat. The grazing “alternative comparison” is uncertain, unclear, and, as with all the other “potential effects” in Table 12 livestock, minerals, travel/tourism, special uses, alternative energy – inadequate, ineffective, uncertain and what occurs under the status quo. Specific changes and monitoring necessary to make those and ensure conservation, enhancement and restoration are highly uncertain.	Response: Table 12 and its contents conclusions were not carried forward into the revised draft EIS and final EIS. The proposed action provides for a reduction in utilization and a limited operating period for livestock near leks and brood-rearing habitat.

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138	Comment: <i>Standard 1b: When seeding, genetically and climatically appropriate and certified weed-free plant and seed material shall be used.</i> RDEIS Standard B-Wild-G-02 is similar. What does “genetically” appropriate mean?	Response: “Genetically appropriate” means that the species being planted is suited to the environment it is being planted in.
139	Comment: <i>Standard 1c: After soil disturbances or seeding, the land shall not be returned to soil-disturbing authorized uses for a minimum of two annual cycles or until desired habitat conditions have been met, whichever is longer.</i> This appears to be a cryptic way to refer to livestock grazing. This is a way of allowing livestock use to be imposed after a mere two growing seasons, and is not a change. It may be a step backwards from existing plans. This demonstrates the likelihood of failures of treatments and seedings.	Response: The changes introduced here are two fold. Current plan direction refers only to disturbance caused by livestock. This would include any form of disturbance. Secondly, the 2-year rest cycle lasts for two annual cycles and included the “until desired habitat condition and project objectives have been met” and the “whichever is longer” stipulation.
140	Comment: What scientific evidence is there that “two annual cycles” is adequate to ensure recovery (and protection of hundreds of thousands or millions of dollars investment) in projects that would inflict major disturbance on sagebrush and/or PJ communities?	Response: The uncertainty around the effectiveness of two annual cycles is addressed by the remaining part of the standard “ <i>or until desired habitat conditions have been met, whichever is longer</i> ”. If the desired habitat conditions, as defined in the project-specific NEPA, are not met in 2 years additional rest will be applied to the treated area.
141	Comment: Standard 1d: <i>Any vegetation treatment within Bi-state sage grouse habitat shall maintain, improve, or restore Bi-state sage grouse habitat.</i> The “or” must be replaced with an “and”. How does the EIS do restoration?	Response: This standard was not carried forward between the draft EIS and the revised draft EIS and final EIS.
142	Comment: Guideline 1a: <i>Time implementation of habitat restoration projects so they cause the least disturbance to Bi-state sage grouse individuals, and populations as possible.</i> By the Forest’s own admission, this and all other guidelines are not required. This now appears altered in the RDEIS to something a tad weaker. The Forest appears to have scrambled tiles of “goals”, “standards”, guidelines, etc.in the RDEIS – illustrating the uncertainty and malleability of this whole flawed and mixed up EIS process.	Response: The guideline in the draft EIS is now proposed as a standard in the revised draft EIS and final EIS. The difference being that projects that do not take timing into consideration to reduce impacts to sage grouse or populations would require a Forest Plan amendment to proceed.

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143	Comment: Goal 2: <i>Bi-state sage grouse and their priority habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and non-discretionary actions.</i> This is continued in Table 2-3 of the RDEIS. This is not an appropriate goal. It is meaningless. What happens to the ever-changeable non-priority habitats? And what will this really mean for the Priority habitats?	Response: Standard 2a: <i>Long-term negative impacts in habitat from discretionary or non-discretionary activities shall be mitigated to the extent practicable.</i> "To the extent practicable" is less protective language than allowed under existing agency sensitive species policies, FLPMA, and NFMA (under land use plan provisions).
144	Comment: Standard 2b: <i>Buffers, timing limitations, or offsite habitat restoration shall be applied to all new or renewed discretionary actions in Bi-state-sage grouse habitat to mitigate potential long-term negative impacts.</i> This must be described in more detail. To which specific activities will all of these buffers, limitations, 'off-site' mitigation apply?	Response: Now B-Wild-S-06, the standard would apply to all new or renewed discretionary actions. Discretionary actions include: livestock grazing decisions, authorization of special use permits, non-locatable mineral activities, and oil and gas leasing authorizations.
145	Comment: What will their specific parameters be? Where and when will the agencies use mitigation by avoidance of impacts? How will decisions about what methods to apply be made.	Response: Site specific NEPA analysis would disclose the parameters, where and when mitigations or avoidance would be used, and the methods used to apply the standard.
146	Comment: The RDEIS Table 2-3 now has more percentages of things promised to occur – indicating that indeed there is a master plan out there that the agencies keep concealed for the public in the EIS, and the potential for effective mitigation appears to be slipping away. WHAT is the basis for the revised info in Table 2-3 of the the RDEIS?	Response: Comments on the draft EIS requested that the objective be more quantitative.
147	Comment: <i>Standard 2c: When long-term negative impacts from non-discretionary actions are unavoidable, mitigations shall be assigned to result in no net loss of habitat.</i> Much more information must be provided. A comprehensive framework must be set up to maximize avoidance actions. What constitutes avoidance? What constitutes loss? And does this refer to any particular type of habitat?	Response: This is no longer a standard being proposed.
148	Comment: <i>Standard 2d: No structures or powerlines taller than the surrounding vegetation that could serve as predator perches shall be installed within 3 kilometers (about 1.9 miles) of a lek.</i> This must be expanded to five miles.	Response: Several new standards include prohibition of tall structures. The buffers are recommendations from the Technical Advisory Team Bi-state Action Plan (2012).

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149	Comment: <i>Standard 2f: Water developments (tanks/troughs) shall be drained when not in use so they do not create a breeding ground for mosquitos that carry West Nile Virus.</i> This doesn't stop mosquitoes from living in squalid trampled mud holes, leaking pipelines, etc.	Response: Water developments (tanks and troughs) are authorized and managed through the permitting process.
150	Comment: <i>Standard 2g: Wildlife escape ramps shall be installed and maintained in water troughs or open water facilities with vertical embankments that pose a drowning risk to birds.</i> This is nothing new, and certainly does not require an amendment. This is already standard operating procedure.	Response: It is already standard operating procedure; however, it is not directed in the plan. When the USFWS identified the lack of regulatory mechanisms in the RMPs it did not consider the ongoing actions like installing escape ramps, as plan direction. We are adding it here, along with other standard operating procedures so that they are in the plan and there is direction to follow.
151	Comment: <i>Standard 2h: Livestock watering and handling facilities (corrals, chutes, dipping vats, etc.) salting or supplemental feeding stations or sheep bedding grounds shall not be located within 1 kilometer of a lek or riparian areas.</i> If this is the case, then the DEIS should provide a map so that it can be determined where these areas are, and lek location in relation to them. Since leks can change position, satellite leks get established, or move over time, the simplest and cleanest way to address this risk is to terminate livestock grazing disturbance during spring, and in pastures with significant riparian brood rearing habitat.	Response: The final EIS includes B-RI-S-08 (similar to above, but requires a 2-mile buffer).
152	Comment: <i>Standard 2j: Visible markers shall be installed on fences and other barriers, especially if the fence or other barrier is on flat topography, has spans exceeding 12 feet between T-posts, has no wooden or equally visible posts or supports, or where fence or barrier densities exceed 1.6 miles of fence per 80 by 80 acre section (640 acres).</i> This is a small step, and can happen and has been happening across the West without a LUPA. This, likely nearly all provisions, is put in here to pad the record so the Forest can tally more Projects.	Response: It is already standard operating procedure; however, it not directed in the plan. When the USFWS identified the lack of regulatory mechanisms in the RMPs it did not consider the ongoing actions like installing escape ramps, as plan direction. We are adding it here, along with other standard operating procedures, so that they are in the plan and there is direction to follow.
153	Comment: <i>Standard 2k: Only use pesticides outside of the critical disturbance periods and only after other integrated pest management approaches have been considered. Only use chemicals with the lowest toxicity to birds that still provide control in coordination with USDA or APHIS, depending of the targeted pest.</i> Is this aimed at killing ravens?	Response: No, it is aimed at providing direction for the use of pesticides.

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154	Comment: Where are the requirements that ranchers remove dead livestock, or better yet, keep large areas livestock-free during the sage-grouse breeding period. What chemicals? What are the risks, side effects, adverse impacts? Who would do this? See WWP Wildlife Services comment.	Response: Requirements of the removal of dead livestock can be found in the term grazing permits. Which chemicals to be used will be determined through a site/project-specific NEPA analysis. For the Forest and BLM the pesticides will be herbicide in nature, since only USFWS and APHIS address animal pests.
155	Comment: Standard 2l: <i>Federal lands in Bi-state sage grouse habitat shall be retained unless a public interest determination identifies a net benefit to Bi-state sage grouse habitat.</i> This loose wording is a major concern. It appears to leave the door wide open to disposal of public lands without any clear sideboards.	Response: See B-LUSU-S-03. The proposed standard provides direction to retain public lands as opposed to disposing of them with no consideration of their potential habitat value.
156	Comment: Standard 2m: <i>The Forest Land Acquisition Plan shall include all private parcels that include Bi-state sage grouse habitat within the NFS boundaries.</i> We strongly support this. But at the same time retention has to be required, and not allow mining to eat into habitats, including by the 100 acres per section annually proposal that must be stricken from any amendment process.	Response: See B-LUSU-S-04. The 100 acres per section annual proposal is not included in the proposed action of the revised draft EIS or final EIS.
157	Comment: Standard 2n: <i>When informed that a right-of-way is no longer in use, relinquish the right-of-way and reclaim the site by removing power lines, reclaiming roads, and removing other infrastructure.</i> Agencies must amend ROWs provisions now, and whenever ROWs come up for renewal – with protective measures for sage-grouse, including potentially burying lines, bundling lines, or removing altogether. ROWs are typically issued for extremely long time frames – 30 years or longer, and these must be updated now in a manner that avoids and mitigates all impacts of the Bi-state DPS.	Response: See B-LUSU-S-06. Amending rights-of-way provisions must be conducted under site-specific NEPA analysis. The agencies cannot change permit terms and conditions without first analyzing the effects of the proposed action.
158	Comment: Guideline 2a: <i>To the extent possible, do not install fences in Bi-state sage grouse habitat unless to protect habitat or for human health and safety. If fences must be installed, they shall be at least 3 kilometers (about 1.9 miles) from active leks, and if possible, let-down when not needed for the purpose of their installation.</i> This needs to be a prohibition on all new fences– except in extraordinary circumstances on new fencing.	Response: See B-RI-G-01. The guideline serves as a prohibition with a clause allowing for extraordinary circumstances.

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159	Comment: Guideline 2b: <i>Use existing roads and co-locate power lines whenever possible to reduce disturbance footprints and habitat fragmentation.</i> We are concerned that the DEIS (and the info used in the TAC) does not provide a sound baseline for understanding the type and magnitude of habitat fragmentation that currently exists in the BSSG habitats and surrounding lands.	Response: See B-AR-G-01. This guideline helps reduce fragmentation of habitat through the use of existing road and rights-of-way for future proposed purposes. There is an ongoing effort to remove unneeded roads and trails and to limit addition of new roads and rights-of-way that would further fragment habitat.
160	Comment: Guideline 2c: <i>Where feasible, bury power lines to reduce overhead perches.</i> WHAT are the criteria that will be used to determine “feasibility” and effective and certain action? Plus if, after clearly defining feasibility, agencies determine costs might be so prohibitive, or ground disturbance highly degrading – what immediate mitigation measures might be applied?	Response: See B-LUSU-G-06. Feasibility in this case would depend on the material through which the proponent would have to dig to bury the powerline. In such cases an alternative to the buried line might be considered.
161	Comment: Goal 2: <i>Bi-state sage grouse and their priority habitats will benefit from standards and guidelines adopted to eliminate or reduce negative impacts and increase positive impacts from discretionary and non-discretionary actions.</i> This is continued in Table 2-3 of the RDEIS. This is not an appropriate goal. It is meaningless.	Response: Comment noted.
162	Comment: Objective 2a: <i>By 2020, Bi-state sage grouse productivity, survival, or use of seasonal habitats will be at least at the same level of use as they are in 2014.</i> This again sounds like the agencies are planning massive intrusive treatments in large areas of occupied sage-grouse habitats.	Response: Objectives are by definition, concise, measureable, time-specific statements of desired rates of progress toward desired conditions. In this instance it is stating that we do not want to do things that will move productivity, survival, or the use of seasonal habitats away from the desired condition.
163	Comment: Page 101 to 112 include comments on the Standards and guidelines from the DEIS.	Response: The revised draft EIS reorganized and rephrased many of the standards and guidelines.
164	Comment: Goal 3: <i>In priority habitat, fuels treatments are used as a management tool when the benefits to Bi-state sage grouse clearly outweigh the risks; otherwise fire is suppressed in priority habitat after life and property.</i> How will this be determined? What science on fire return, disturbance, and risk will be used? How will grass seedings, fuelbreak veg destruction and seedings potentially increase fire frequency, cheatgrass, weed risk, and end up unintentionally increasing habitat loss?	Response: This is a goal not an action. If fuels treatments cannot be used then they won't be. Over time the agencies may discover that the risks are too great and stop using fuels treatments altogether.

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165	Comment: Objective 3a: <i>By 2024, proactive fire prevention treatments will have been implemented in or adjacent to 30 percent of the identified priority habitat.</i> If this refers to massive grass seedings and destruction of woody vegetation, then this is likely to elevate fire risk. This is especially the case if grazing disturbance is continued on the hotter, drier cheatgrass-prone, motorized use enticing, fuelbreaks.	Response: There is no plan, it is an objective. Conditions may not allow use of these tools to protect sage grouse habitat. Site-specific NEPA analysis will need to be conducted to determine if fuel reduction treatments to protect habitat are feasible.
166	Comment: Is there already a plan for this and treatments, as this LUP seems tailored overwhelmingly to support massive treatments?	Response: There are no projects currently proposed. Prior to preparation of a supplemental EIS we would need to complete a final EIS.
167	Comment: The RDEIS fails to address serious ecological concerns in a forthright way. It casts aside consideration of just about everything –by terming Wildlife like pygmy rabbit or ferruginous hawk or pinyon jay “Non Key Issues”. Weeds are non-Key issues, BLM has purposefully set the stage for willfully ignoring the many conflicts of what appears to be an even more aggressive treatment scenario than Bodie.	Response: The key issue/non-key issue comment has been addressed under the response to comment 8.
168	Comment: The HT TAC Report and LUP DEIS underlying models have not been subjected to public scrutiny at all.	Response: The Bi-state Action Plan (2012) was prepared for the Bi-state Sage Grouse Executive Oversight Committee. It is not a NEPA document and did not require public input or outreach. It did, however, receive review from the population management unit boards and the Bi-state Local Area Working Group. The models supporting the identification of habitat and used by Nevada Department of Wildlife and the USFWS to delineate habitat for this species have had scientific peer review and has been published in scientific journals.
169	Comment: The HT EIS must reveal if the same level and degree of disturbance is proposed in the EIS lands – or even potentially more? Beyond the East Walker and Pine Nut projects already out for review.	Response: The proposed amendment does not include any actions that would disturb lands on national forest system or BLM lands.
170	Comment: What in reality are the actual foreseeable levels of disturbance and degradation that would be imposed?	Response: The proposed amendment would not cause any direct or indirect disturbance or degradation.
171	Comment: Likewise, the HT DEIS aims to destroy vast areas of mature PJ, yet it is the mature PJ that sensitive PJ species need. Plus this is likely to expose the watershed to significant erosion. The Biological and other Assessments and their simplistic conclusions are woefully deficient, arbitrary, self-serving and unsupported by science.	Response: There are no actions in the proposed amendment that would destroy vast areas of mature pinyon-juniper.

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172	Comment: The TAC was prepared by a consultant with a strong bias towards the livestock industry.	Response: RCI was under contract with Nevada Department of Wildlife to prepare the Bi-state Action Plan (2012). Their role in preparation was to take the scientific information produced by the other team members and compile it into a readable, well-formatted document. The RCI team members include a writer-editor, GIS specialist, a technical writer, and a reviewer. They were not asked to contribute to the document as technical rangeland experts.
173	Comment: This appears to be why livestock grazing is always rated a Low threat in the TAC, and why apparently no other consideration than reference in the TAC to unspecified T&C on permits, which all public lands grazing permits have, is claimed to be sufficient. For ALL PMUs, grazing is never rated by the TAC as even a Moderate threat – in contrast to wild horses	Response: For the identification of threats the Forest relied on those identified in the USFWS proposed listing (October 28, 2013) and not on the threats or threat ratings identified in the Bi-state Action Plan (2012).
174	Comment: Also, the TAC fails to consider livestock water developments somehow as infrastructure, despite the many harms and very significant ecological damage they cause. See USFWS WBP Finding. Oddly, the Proposed BSSG Rule also avoids calling these harmful permanent livestock facilities that cause extreme soil disturbance and degradation of vegetation over significant areas	Response: The Bi-state Action Plan and the USFWS proposed rule identify threats and assign risk from a variety of activities. The proposed amendment does not dispute those threats or risks, but includes management direction intended to reduce the effects of agency actions on the species and its habitat. The standards and guidelines proposed are not intended to eliminate all threats. The proposed action includes standards and guidelines intended to reduce the potential impact of watering facilities, corrals, bedding grounds, and other “facilities” on the bi-state DPS.
175	Comment: HT EIS other 3 standards related to fire. There is nothing here to prevent use of fire in vulnerable habitats. Wasn't this supposed to be part of the Scoping? Are agencies just planning on burning up as much as possible as soon as possible – so the full brunt of the cheatgrass/weed invasions that will be spawned will not be understood until it is too late to turn the tide on treatment disturbances?	Response: Between the draft EIS and the revised draft EIS, standards and guidelines were developed to address fire suppression, fire suppression in the wildland-urban interface, fuels treatments in sagebrush, and prescribed fire. The standards and guidelines are weighted heavily toward the protection of sagebrush habitat from fire and not conducting fuel treatments or other activities where there is a high risk for the further spread of annual invasive grasses.
176	Comment: The Forest has not shown that its aggressive disturbance actions and very limited consideration of the impacts of livestock grazing on BSSG, pygmy rabbits and all other native biota will conserve, enhance or restore sagebrush. It is hard to understand what is meant by “improve the ability of the FS and BLM”. This is a highly programmatic, general document that can not be used for site-specific actions, or tiering future projects to.	Response: This is a programmatic analysis that cannot be used for site-specific actions. It provides desired conditions, goals, and objectives that the Forest and BLM can use in the future to develop proposals for site-specific actions. It also provides standards and guidelines that the proposals for site-specific actions must follow in order to protect habitat for the long-term persistence of the habitat.

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Comment Number	Comment	Response
177	Comment: The DEIS must require for any and all treatment actions, cutting out habitat, including the 100 acres a section must at a minimum require the preparation of an EA. More likely an EIS will be necessary because of the risk of cheatgrass invasion, soil erosion, watershed damage, unintended collateral loss and damage to sagebrush as a result of the large-scale aggressive treatments and failure to adequately control livestock grazing impacts and damage	Response: The land management plans are not the place to dictate the level of future project-specific NEPA analysis. That is completed at the project level when the ID team is developing the proposed action and purpose and need for the project.
178	Comment: However, both the Forest Service and BLM have already been incorporating conservation measures to project the Bi-state sage-grouse for several years, so any change in site-specific activities is expected to be minimal ... FWS Koch has described spending 38 million dollars – and this is clearly not indicative of minor impacts.	Response: The potential effects of the proposed amendment and the potential effects of spending \$38 million on habitat improvement projects are not the same. Many of the standards and guidelines in the proposed amendment have indeed been in practice for the last few years. Changing management to requiring that the standards and guidelines are adhered to will be minor. Many are already being implemented in practice. Designing, analyzing, and implementing sagebrush habitat improvement projects over the next 10 years are not part of the proposed amendment. Whether it turns out to be an impact remains to be seen.
179	Comment: If the effects are actually “minor” why has this shallow, programmatic EIS been prepared? Irreversible cheatgrass invasion in the depleted, chronically grazing – disturbed lands of the Bodie PMU grazed by Hilton cattle, or the immense domestic sheep disturbance - is irreversible. Invasion of treated lands where sage has been “thinned” is irreversible. So is wanton destruction of PJ growing on steep or unstable soils, providing pinyon jay nesting and foraging sites, etc. And these sites are very likely to become invaded by cheatgrass, truncating plant succession.	Response: The level of potential effects from a proposed action does not always signal the level of NEPA required. In this case we are preparing an EIS because the BLM regulations require that an EIS be prepared when they amend their resource management plans. While there is little dispute that cheatgrass invasion, or the removal of pinyon-juniper woodlands, can have impacts to the biophysical resources of an area, and might require analysis in an EIS, it is also true that those same actions can be addressed using categorical exclusions or environmental assessment. The level of NEPA analysis applied depends on the site-specific nature of the action being proposed.
180	Comment: It appears that the HT DEIS is just going through the motions of NEPA, and has set out on a pre-ordained decision making path – which violates the fundamental principles of NEPA, NFMA, FLPMA, conservation principles and the ESA.	Response: The Forest and BLM are conducting the NEPA analysis of the proposed amendment and alternatives following the requirements of NEPA, NFMA, FLPMA, and ESA. There has been no “pre-ordained” decision. CEQ regulations require the Forest to identify a preferred alternative, if one exists in the EIS.
181	Comment: How did the Forest determine that the Non-Key Issues were Non-Key? There is no basis for this. The Forest claims livestock grazing, wildlife, wild horses, weeds, minerals, and non-fuel management are all Non-Key issues. The only Key Issues are Access and Economics, and there would only be “minor change”.	Response: The key issue/non-key issue comment has been addressed under the response to comment 8

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Comment Number	Comment	Response
182	Comment: <i>There are no areas of critical environmental concern within this amendment area.</i> THIS process needs to consider new ACECs and Forest-level protections. WWP submitted these with our GRSG rangewide scoping comments, and we submitted these comments for this project record, and asked that you consider them.	Response: The revised DEIS is a Forest Service-lead planning effort and is following the Forest Service planning process. The Forest Service does not recognize or establish areas of critical environmental concern (ACECs). The BLM is a cooperating agency and as such could write a record of decision based on this Forest Service document. The Carson City District (CCD) has evaluated proposed areas of critical environmental concern for inclusion in their RMP revision. The report titled "Areas of Critical Environmental Concern–Report on the Application of the Relevance and Importance Criteria" was signed and made available to the public in March 2013 on the CCD RMP website. Additionally, the Pine Nut Bi-state Sage Grouse ACEC was brought forward for analysis in the CCD Draft RMP/EIS. The CCD Draft RMP/EIS is out for 120-day public review and comment.
183	Comment: <i>The time period for approval of permits could be extended due to the need for site-specific NEPA analysis and the inclusion of additional design features.</i> Does this refer to grazing – we certainly hope not. In fact, the Forest should immediately embark on a modern day analysis of impacts, and a current capability and suitability analysis that includes sag-grouse, aquatic species and all other needs.	Response: Timing limitations for such activities as construction, surface disturbance, drilling, occupancy, and others may be assigned. These must be assigned, and a detailed series of specific required actions must be used.
184	Comment: <i>Timing limitations for such activities as construction, surface disturbance, drilling, occupancy, and others may be assigned.</i> These must be assigned, and a detailed series of specific required actions must be used.	Response: The timing limitation placed on non-discretionary locatable minerals projects need to be assessed and applied during the site-specific analysis to avoid conflicts with mineral regulations and mining law.
185	Comment: <i>Each component of the project will be evaluated and mitigated to reduce or eliminate long-term negative impacts to Bi-state sage grouse to the extent practicable.</i> To the extent practicable is a loophole that provides no certainty at all.	Response: Mitigation of effects for non-discretionary locatable minerals projects need to be assessed and applied during the site-specific analysis to avoid conflicts with mineral regulations and mining law.
186	Comment: <i>Off-site mitigation may be recommended for unavoidable long-term impacts to Bi-state sage grouse.</i> This must be defined in great detail. It is impossible to create large areas of new habitats.	Response: Off-site mitigation opportunities will be identified during site-specific NEPA analysis.
187	Comment: <i>Nothing in the proposed amendment would preclude authorization of a plan of operations.</i> What would preclude this? How harmful does an action have to be for it to be precluded? This whole EIS and the TAC are based on the delusional endless frontier mindset. It conflicts with the ecological reality on western arid lands.	Response: This analysis assumption applies to locatable mineral plans of operations. Mining Law and regulations require analysis of plans of operation. This proposed amendment does not limit our ability to analyze proposed plans of operation and make recommendations to avoid impacts to sensitive species.

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Comment Number	Comment	Response
188	Comment: <i>Expansion of existing pits inside habitat may have timing limitations and hours of use modified. Measures to control noise, dust, visual, and other impacts may be added, along with other mitigations to reduce negative long-term impacts.</i> The amendment must prohibit this. Is this why the outrageous 100 acres per section annual excision of habitat? To allow incremental expansion of destructive projects? Is this being done because there are already proposals for this? Where is an analysis of the direct, indirect and cumulative effects of the existing mining and geothermal activity, and irrigation, on ground and surface waters and BSSG and other sensitive species habitats??	Response: The proposed amendment includes standards and guidelines which limit operating periods and expansion of existing pits. The 100-acre habitat change described in the draft EIS is no longer part of the proposed action. Analysis for existing pits was completed when the pit was authorized. For some of these, authorization may have been given prior to signing of NEPA.
189	Comment: <i>Alternative may be developed for analysis of proposed surface disturbance outside of Bi-state sage grouse habitat if practicable. What does this mean?</i>	Response: It means that for proposed actions ID teams may look outside habitat for a potential location for a proposed project.
190	Comment: <i>Nothing in the proposed amendment would preclude authorization of a saleable permit. WHAT does this mean? Will there, in reality, be any solid controls on anything at all?</i>	Response: The BLM is closing bi-state DPS habitat to salable minerals, and the Forest Service is not consenting to authorize new solid mineral leases or authorize new pits or prospecting permits for mineral materials.
191	Comment: <i>Exploration and development may be discouraged/carefully considered or minimized in Bi-state sage grouse habitat, especially if the purpose and need for the action can be met outside the habitat.</i> There is no guarantee or certainty that the action will not be allowed inside the habitat, with serious adverse effects. ALL related effects of actions, including large-scale vehicle disturbance, must be assessed. For example, the Aurora Clay mine would result in disturbance 140 vehicle trucks per day.	Response: These are analysis assumptions used to help guide the analysis of the proposed amendment and alternatives. The alternative does include prohibitions to some activities. The effects of those prohibitions on the minerals program are address in the final EIS.
192	Comment: <i>Nothing in the proposed amendment would preclude authorization of a leasable permit. What does this actually mean? That all lands, even NDOW essential irreplaceable habitat, may have a lease authorized on them?</i>	Response: This statement does not come from the revised draft EIS.
193	Comment: The DEIS must assess the very significant direct, indirect and cumulative impacts and risk of the aggressive treatment disturbance, geothermal development, mining development, and grazing disturbance.	Response: Assessing the potential impacts of these, as yet undefined, actions is outside the analysis capabilities of the final EIS. When, if site-specific projects are proposed in bi-state DPS habitat, the standards and guidelines approved under this process will be applied and then the direct, indirect, and cumulative effect of those actions will be analyzed.

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Comment Number	Comment	Response
194	Comment: Long-term discrete disturbance is expected for vegetative improvement. During implementation, the sage grouse would not be using area because of disturbance. While sage grouse are expected to move back into the area after implementation, their return is not certain and would occur after the vegetation is restored to meet their habitat needs. This is crazy. The treatments will drive the grouse out – to where? There is no grouse land somewhere over the rainbow	Response: The analysis assumption is bringing to light that efforts to restore habitat may have a disturbance effect on grouse in the (marginal) habitat being improved.
195	Comment: Implementation in large restoration areas may take 10 years to complete. And how many decades, or centuries, to recover? The Ecosite and FRCC models that are underlying this massive treatment scheme use outdated and erroneous information.	Response: The recovery time will vary with the treatment types. Some habitat improvement projects such as the removal of pinyon/junipers in phase 0–phase 1 and fence lines from the lek buffer would require no recovery time at all. Removal of phase 2 pinyon from an area may take longer to recover.
196	Comment: Implementation in large restoration areas may take 10 years to complete.	Response: The final EIS does not include any “treatment”. Habitat treatment projects will be analyzed under their own site-specific NEPA analysis.
197	Comment: Protecting habitat, improving habitat, and reducing disturbance will help maintain or increase the population and distribution of the species. Nearly all the amendments appear to do just the opposite.	Response: This is an analysis assumption intended to help the reader understand the approach to the analysis presented in the following chapter. It is a rephrasing of the purpose and need statement.
198	Comment: Although the alternatives apply only to lands administered by the Forest Service or BLM, none of the alternatives prohibits mitigation activities that may be required for Forest Service or BLM authorization or to meet the purpose of the proposed action from occurring on lands administered by other government, private, or Tribal entities under appropriate authorizations. What does this mean? Is this to highlight allowing mine or geothermal development in the heart of BSSG habitats (as could very well occur under the DEIS amendments)?	Response: The analysis assumption states that all mitigation can occur on lands managed by other entities.
199	Comment: Neither will climate change have an effect on how the regulatory mechanisms in the proposed amendment are eventually implemented. What? Is the Forest oblivious to the past decade of science conducted in the Great Basin and across the western U.S.?	Response: We should have worded this better. Climate change may affect how the regulatory mechanisms in the proposed action are implemented over time. There is a potential that, with a changing climate, some other regulatory mechanisms identified in this amendment will need to be changed to address a changed condition.

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Comment Number	Comment	Response
200	Comment: Why is the LUPA not, at a minimum, putting in place seasonal road closures and requiring a Travel Plan to be in place under the ROD, with roads targeted for removal rehabbed? though Travel Planning may be contentious, it is critical that it occur.	Response: The proposed amendment does not make site-specific decisions. It does provided standards and guidelines for setting limited operating periods for recreation use and for seasonal road closures. These would be applied after site-specific, project-level analyses are completed.
201	Comment: To what degree do threats, habitat fragmentation, grazing spread of cheatgrass, etc. cumulatively affect the landscape under the extremely limited alternatives?	Response: There is no dispute that the threats identified by the USFWS in their 2013 proposed listing occur. However, the decision to amend the RMPs does not add to or subtract from those ongoing affects. What will address those threats are the site-specific actions proposed to limit habitat fragmentation, spread of invasive annual grasses, and livestock grazing. The proposed amendment does not add to or decrease the amount of these activities. It amends the RMPs with standards and guidelines to be applied after site-specific analysis. The proposed amendment and alternative if selected and implemented may, overtime, reduce the impacts of threats identified by the USFWS in their 2013 proposed listing.
202	Comment: For goodness sakes, according to FWS quoted in the Tahoe paper, the Forest plans to spend 38 million dollars, enabled in an unclear and murky manner by this TAC plan and DEIS. The Forest can not duck and avoid analysis of the effects of these actions by saying the LUP is not doing anything	Response: The habitat restoration actions cited in the Tahoe paper are not part of this proposed amendment. Yes, the Bi-state Action Plan includes a list of projects that could improve sagebrush habitat. They are not well defined and with only a few exceptions are in the conceptual stage. There is not enough information regarding these proposed actions to do more than speculate on their potential effects. Although the Forest Service and NRCS have agreed to commit \$38 million towards implementing the Action Plan, restoration projects proposed under the Action Plan are separate from management actions proposed under this draft EIS. Since these projects are still in the early phases of planning, their potential impacts have not yet been assessed so they could not be included in the baseline on which management actions proposed under this draft EIS could be compared.
203	Comment: Table 11 of economic factors and relative percentages lumps public lands grazing in with all agriculture, apparently. In reality, grazing is a tiny part of any economy in the area. There are far fewer permittees than there are allotments. See FIM permit spanning around a dozen allotments on the Bridgeport RD alone. In reality, the grazing portion only affects a tiny number of ranchers including a sprawling billionaire hobby ranch operation.	Response: The economic analysis discusses how public land grazing contributes to the agricultural sector of the local economy. The analysis acknowledges that livestock grazing on Federal allotments in the planning area supports only a small portion of total economic activity in the agricultural sector, and measures the amount of economic activity directly and indirectly supported by Federal forage on these allotments.

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Comment Number	Comment	Response
204	Comment: <i>Alternative 1 – No Action; Direct and Indirect Effects: There would be no direct or indirect effects to the economic conditions in the study area if the no-action alternative was selected. WHAT? Isn't this 38 million supposed to be spent creating "new" habitat – and livestock forage? It is important to note that many of the regulatory mechanisms identified in the proposed amendment are already being applied to projects proposed in sage grouse habitat. Then why is this needed?</i>	Response: As previously noted, the \$38 million committed to proposed habitat improvements is outside the scope of this draft EIS. Since these projects are still speculative, they cannot be included in the baseline for which alternative management actions can be compared.
205	Comment: The Forest and BLM can already do the actions being proposed under their existing LUPs. There is no explanation for why these changes are needed. Are they being done to strip the protections for forestry resources in the LUPs? Is that the real reason for this PEIS. What ARE the existing protections for all resources and components of the environment in the Forest and BLM Land Use Plans?	Response: The Forest Service and BLM can and do already implement many of the standards and guidelines identified in the proposed action. The reason we are amending the RMPs is because while we can do these things the plans do not require us to do these things. The proposed amendment is in response to the threat identified in the 2010 petition to list (a <i>Federal Register</i> notice) stating that existing regulatory mechanisms in the plans ... "afford sufficient discretion to the decision maker as to render them inadequate to ameliorate the threats to the Bi-state DPS". By including these standards and guidelines the decision makers discretion is removed.
206	Comment: The Forest must fully consider careful and targeted treatment that selectively tailors tree removal by hand cutting in areas actually used by sage-grouse.	Response: Agreed; however, the time for that analysis is when there is a site-specific proposal (and not in this programmatic final EIS).
207	Comment: It is alarming that the Forest is trying to jump the gun on the separate Greater Sage-grouse EIS process, and thwart a full and fair outcome with this massive sprawling premature East Walker treatment scheme. The Forest just did the same with its flawed geothermal leasing scheme that has set the stage for destruction of vast swathes of the Bridgeport District and other areas. It piece-mealed in and segmented NEPA analysis.	Response: Both of the projects mentioned were initiated prior to the beginning of this final EIS to amend the RMPs.
208	Comment: The Goal of the EIS should be to both maintain and increase BSSG populations, and to do this while minimizing collateral damage and harm done to forested vegetation and other listed species and mountain quail, flammulated owl, aquatic biota, etc.) through use of careful and targeted actions.	Response: Comment noted.

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Comment Number	Comment	Response
209	Comment: The Forest must fully consider removal and/or large scale reduction of stocking and changes in grazing and other disturbance in significant blocks of sagebrush habitat across the affected PMUs.	Response: Comment noted.
210	Comment: Maintenance of large, intact sage communities must focus on removing harmful disturbances from those communities (such as livestock grazing disturbance, livestock facilities, excessive roading, etc.).	Response: Maintenance of large, intact sage communities must focus on removing harmful disturbances from those communities (such as livestock grazing disturbance, livestock facilities, excessive roading, etc.).
211	Comment: WWP requested that the agencies provide a solid baseline of microbiotic crust occurrence and condition, cheatgrass risk with continued grazing disturbance, risk with aggressive treatments disturbance, etc. The Forest failed to do any of this.	Response: The analysis of the proposed amendment and alternatives does not require a solid baseline for the resources or conditions listed. The analysis considered the effects of the proposed amendment and alternatives on programs.
212	Comment: The Forest failed to take a hard look at the scientific underpinnings and validity of the claims the ESD Models, the state and transition models, and how historical information and current science contradicts this and risks.	Response: There is no reference to the ESD model or the state and transition models in the revised draft EIS. The Interim Management direction refers to them, but they are not part of the proposed amendment or alternative.
213	Comment: The Forest ignored and examination of the Historical Survey records and information in the BLM General Land Office surveyor and other records to understand the historical vegetation. See also Wilson 1941, Young and Svecjar 1999.	Response: Historic survey information would be more appropriately used during site-specific analysis to determine historic range of habitat.
214	Comment: The Forest must Maximize benefits to Bi-State Sage Grouse habitat and Bi-State Sage Grouse populations by minimizing cheatgrass and other weeds that will be caused by treatment disturbance, spawned by livestock grazing and facility disturbance (Resiner et al. 2013), roading (Gelbard and Belnap), and energy, mining, gravel pits, roads, other development disturbance.	Response: The proposed amendment and alternative include standards and guidelines to address the spread of invasive annual grasses.
215	Comment: What is meant by "target 97% or greater" in the DEIS to be free of human disturbance? Does this mean free of livestock and management disturbance?	Response: This is from the draft EIS. It was not carried over into the revised draft EIS; and was in reference to the 3 percent disturbance cap.
216	Comment: The agencies have failed to provide an overall analysis of the current visual/viewshed integrity, soundscapes, darkness of night skies, etc.	Response: As there is no action related to disturbing viewsheds, nor any proposal to add a standard or guideline to preserve viewsheds, there is no need to analyze viewsheds.
217	Comment: WHAT is the basis for inputs of the modeling of Fire condition Class in Table 3-23?	Response: Landfire national layers were used.

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Comment Number	Comment	Response
218	Comment: At the same time, credible historical and scientific information that contradicts, updates, or challenges the assumptions made in the 2012 TAC Report/Plan, IM, DEIS and Scoping and all its underpinnings – including the ESDs, FRCC black hole models, must be analyzed in detail.	Response: Comment noted.
219	Comment: Why do agencies want MORE fires in this landscape? There is great risk with making the landscape MORE likely to burn.	Response: There are no proposed actions that would put more fire on these landscapes.
220	Comment: Thus, managing on the basis of ESDs that have a relatively high proportion of grass, and less sage/shrubs – may actually be highly detrimental and harmful to sage-grouse.	Response: The desired condition (Table 2-1) is partially based on Cassazza's work.
221	Comment: We again stress the RDEIS has failed to provide mapping and information necessary to understand the areas in tis landscape it intends to treat, and the areas of existing treatment/fire, etc.	Response: There are no proposed treatments being analyzed as part of this action. The East Walker Project is being analyzed under separate NEPA analysis.
222	Comment: The Forest must use the DEIS process to identify ALL of the existing and potential habitats –based on slope, topography (lack of rugged rocky outcroppings that just like trees serve as raptor perches), a combination of these,	Response: The Forest does not need to identify all of the existing and potential habitats. Habitat has been modeled by the Technical Advisory Committee. A white paper describing the modeling process is included in the project record.
223	Comment: Please provide us immediately with a detailed map of “true” pinyon-juniper sites, and the basis for claiming sites are pinyon-juniper, or are not. Were historical survey records (GLO records) and/or records of historical mining and deforestation activity consulted/reviewed in making this claim? How were persistent PJ sites, as determined in the recent intermountain foresters Position paper and Romme's work, identified? We requested this years ago now – and it has not been provided to this day. This type of data, science-based delineation of natural vegetation communities, and mapping of these sites should be cornerstones of an EIS effort here.	Response: The information referenced in the comment was not needed for the analysis of the proposed amendment or alternative. Bi-state DPS mapping was modeled. A white paper describing the modeling process is included as part of the project record.

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Comment Number	Comment	Response
224	Comment: The RDEIS has not provided detailed information on all livestock grazing permits, all livestock actual use, all livestock AOIs and use and movement patterns, all livestock facilities and associated roading or other disturbances across the lands inhabited by these PMUs.	Response: The analysis of the proposed amendment and alternative does not require the detailed information on livestock grazing permits, actual use, AOIs (annual operating instructions), movement patterns, facilities and roads.
225	Comment: It has not provided all monitoring information for the past 20 years related to livestock grazing in and surrounding the PMUs. Where is monitoring occurring? What is being monitored? How is grazing and trampling disturbance adversely impacting upland and riparian habitats?	Response: The analysis of the proposed amendment and alternative does not require the detailed information on the monitoring information related to livestock grazing.
226	Comment: In what manner may livestock grazing be shifted or intensified as a result of treatments –including when actual use is considered?	Response: There are no treatments associated with the proposed amendment or alternative.
227	Comment: The Forest and this RDEIS apparently assume agencies deserve carte blanche to lay waste to vast areas of non-sage-grouse habitat forested vegetation on steep slopes and in rugged terrain in order to somehow “save” sage-grouse. The Forest must adequately protect all the resources of the public lands – and these include sensitive, MIS and other species, and act to resolve conflicts to comply with NFMA and FLPMA.	Response: There are no proposed activities that would treat any vegetation as an outcome of this analysis.
228	Comment: Where are all areas identified as sage-grouse nesting, brood rearing, breeding habitats? Detailed mapping should be provided with the DEIS and BA/BE, and it is not.	Response: The draft EIS does not need to include maps showing nesting and brood-rearing and breeding habitat. Maps are included in the project record.
229	Comment: Treatments must then be examined in relation to impacts on these sensitive areas. Avoidance is claimed to be 3/1 to 6/30 – but what distance will be avoided? Will use of access roads, helicopters lobbing napalm, trucks hauling biomass wood chips, etc. intrude and disturb grouse?	Response: Aside from the proposed limiting operating period, these are not actions that are included in the proposed amendment.
230	Comment: Where are all site-specific current systematic surveys for all the important rare plants, rare insects, rare animals – and what is the current condition of their habitats? What risks are to these and similar resources by all the projects that may carried out under the RDEIS?	Response: As there are no project actions related to the proposed amendment there are no potential effects to rare plants, insects, or animals; therefore there is no need to conduct field surveys.

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Comment Number	Comment	Response
231	Comment: How can the RDEIS seek to impose massive treatment disturbance, and sky high livestock stocking across the landscape – while failing to provide ANY current information on watershed health, riparian health, the status of aquatic and terrestrial species habitats and populations that depend on riparian and aquatic resources? The associated RDEIS specialist reports (all of which should be posted on line) are woefully lacking on current data and analysis.	Response: See response to comment 230.
232	Comment: In order to consider a full range of alternatives, the Forest must also consider re-planting sagebrush in ALL areas where it has purposefully and wantonly destroyed sage-grouse and pygmy rabbit habitats.	Response: Planting sage requires a site-specific project analysis. It is outside the scope of this programmatic document to consider this action.
233	Comment: It also shows the forest proposing to impose domestic sheep grazing on Vacant cattle allotment occupied by Bodie PMU of Bi-State sage-grouse. This is not indicative of a commitment to sage grouse conservation, and further raises our concerns that the Bridgeport RD seeks to expand livestock grazing in any way it can. Why weren't the adverse impacts of this dealt with in the DEIS, by amending the Land use Plan to Close all Vacant Allotments?	Response: Any range project proposed on the Ranger District would have to analyze the potential effects of the proposed action following the standards and guidelines included in this amendment. The outcome of the proposed action would be based on the site-specific conditions and the potential effects identified during the analysis.

Lincoln Resource Group Corporation Letter dated August 21, 2014		
Comment Number	Comment	Response
1	Comment: Pine grove project data were provided to Ms. Lee in March of 2014. Lincoln has received no feedback or reports from Ms. Lee regarding Pine Grove.	Response: Ms. Lee of Industrial Economics is the lead contractor for the USFWS economics analysis of the potential effect listing of the bi-state DPS may have on local economies; her analysis is only marginally related to this amendment project. This project is proposing to amend the LRMP and RMPs to include regulatory mechanisms that would help conserve, enhance, and or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. The analysis conducted by the USFWS will be used to determine whether the bi-state DPS should be listed. The Forest and BLM have no contact with Ms. Lee in this matter. The USFWS is the primary contact for questions, comments, or concerns related to the proposed listing.

Lincoln Resource Group Corporation Letter dated August 21, 2014		
Comment Number	Comment	Response
2	Comment: "Best science" was not used to determine the critical habitat at Pine Grove. No critical habitat mapping has ever been conducted on the ground by a federal biologist. How can such practice be considered as "best science?"	Response: Critical habitat is designated by the USFWS. The process used to determine critical habitat is described in the Proposed Rule published in the <i>Federal Register</i> on October 28, 2013, Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Bi-state Distinct Population Segment of Greater Sage-Grouse. The final EIS and subsequent decision does not analyze or make a decision on what may or may not be identified as critical habitat.
3	Comment: The computer model used to determine "critical habitat" at Pine Grove is missing key components such as steepness of terrain (e.g. cliffs), presence or non-presence of favorable vegetation under tree cover, and acceptable or non-acceptable levels of pinyon/juniper trees.	Response: The model used to determine critical habitat was developed for that purpose by the USFWS. It is not an element used in the analysis of the proposed action.
4	Comment: A skinny, 19 mile long corridor for potential sage grouse on the eastern flank of the Pine Grove Hill is ill conceived.	Response: As described on page 14 of the revised draft EIS, the habitat map used in the revised draft EIS was created by the Bi-state Sage Grouse Technical Advisory Committee. That committee included wildlife professionals from the California and Nevada BLM, USGS, Forest Service, USFWS, and California and Nevada state wildlife agencies. If the area mentioned in the comment did not have some habitat qualities it would not have been mapped as habitat.
5	Comment: There appears to be no provision to protest the critical habitat mapping.	Response: During the USFWS process to designate critical habitat, there was a 60-day public comment period on the proposed critical habitat which began on October 27, 2013, and ended on December 27, 2013. There was also an extension to that comment period.
6	Comment: The numerous operating restrictions envisioned by the Revised DEIS are economically prohibitive for mine development.	Response: Many of the proposed standards and guidelines are subject to valid existing rights. The mining of locatable mineral is a valid existing right.
7	Comment: Page 75 of the RDEIS states that the claim maintenance fee is \$140 per claim. The BLM has recently raised the fee by 10% to \$155 per claim.	Response: The reference to the claim maintenance fee will be corrected in the final EIS.
8	Comment: Page 75 states that the annual claim fees would generate more than \$76,000. WRONG. The 5,467 active claims would annually generate \$847,385.	Response: The final EIS will reflect a revised calculation of the amount potentially generated by the claim maintenance fee.
9	Comment: Page 108 sites that the Walker Lane structural zone is associated the occurrence of "several" precious metal deposits. WRONG. There are "hundreds" of precious metal deposits within the Walker Lane.	Response: The text will be changed to "many" precious metal deposits.

Lincoln Resource Group Corporation Letter dated August 21, 2014		
Comment Number	Comment	Response
10	Comment: Page 108 sites that minerals role in the future has "moderate" potential. WRONG. Discovery of new mineral deposits has "excellent" potential.	Response: The sentence in the revised draft EIS states "Locatable minerals have an important role in the past and will continue to have some role in the future with at least moderate potential (USDI BLM 2013)." Locatable minerals are a very wide range of mineral commodities. The BLM document was generalizing the potential of all various locatable minerals which would range from moderate to high potential.
11	Comment: Page 109: The first sentence implies that only land administered by the BLM has high potential for locatable minerals. WRONG. Lands administered by the US Forest Service also have high potential.	Response: The wording of this paragraph has been modified to better reflect the potential.
12	Comment: The Plan does damage to the concept of "multiple use" on public land and gives preference to a single use by a single bird. This is wrong.	Response: Comment noted.
13	Comment: The Revised DEIS states that individuals or businesses may experience inconvenience and occasional financial burdens in order to adapt to required government stipulations. This is a major understatement. The restrictions will stop minerals exploration and development.	Response: Mineral exploration and development could continue under the new goals, objectives, and standards and guidelines, provided they were covered under the valid existing rights clause (if they were locatable mineral project) or if they minimized disturbance in habitat according to the standards and guidelines.
14	Comment: The goal of the Plan appears to be to stop all development on public lands by any means. We also see this with the continued designation of wilderness in rural counties where jobs continue to be lost.	Response: Comment noted.
15	Comment: Much of the mineral resource at Pine Grove is on patented claims (private property). Project closure due to adjacent critical habitat restrictions will be considered as a "taking" by the US Government. Such a "taking" will result in a lawsuit by Lincoln against the US Government to recover loss of the gold resource and future cash flows. Such a lawsuit would involve a potential settlement of tens of millions of dollars.	Response: Comment noted.
16	Comment: The critical habitat at Pine Grove should be removed. The Pine Grove project does not fragment known habitat and is no threat to the Bi-State Sage Grouse.	Response: Comment noted.
17	Comment: The Revised DEIS has a negative impact on mining and the creation of jobs.	Response: Comment noted.

Reed Secord Letter Dated July 21, 2014		
Comment number	Comment	Response
1	Comment: Unless at least one million acres of Inventoried Roadless areas are set aside as wilderness in the forest by congress along with a lot of new BLM wilderness, the sage grouse should be listed as endangered!	Response: Wilderness designation and the decision to list the sage grouse as endangered are outside the authority of the Forest Service or BLM. Our decision, based on the analysis in the final EIS is to identify a set of goals, objectives, and standards and guidelines that will serve as management direction for ongoing and proposed activities in sage grouse habitat for the next 20 years.
2	Comment: The first BLM decision is just out of Wyoming: it is a bad one! It allows oil and gas drilling and transmission lines in sage grouse habitat!	Response: Comment noted.

Jean Public Letter Dated July 3, 2014		
Comment Number	Comment	Response
1	Comment: This sage grouse plan is a terrible scam on the general taxpayers. You will soak and gouge them to allegedly “restores” and then you will let gun wacko wildlife murdering hunters shoot them for license money.	Response: Comment noted.

U.S. Environmental Protection Agency Letter Dated October 9, 2014		
Comment Number	Comment	Response
1	Comment: While it appears that the referenced tables incorporate components from both Alternatives B and C, it is difficult to determine exactly how they were integrated into the preferred alternative and which components would ultimately be incorporated into the Forest and Resource Management Plans. In table 2-4, there are multiple resources for which an asterisk appears prior to the standard or guideline unique identifier for the same resource for both Alternative B and C, although each alternative has very different protocols. For example, Alternative B-AR-S-05 prohibits new recreation facilities unless they will have a neutral or beneficial effect, while Alternative C-AR-S-04 would simply prohibit new recreation facilities (table 2-4, pg. 20), yet both are preceded by an asterisk. For clarity, EPA recommends that the FEIS clearly consolidate all of the components of the preferred alternative into a distinct and coherent description to facilitate its comparison to the other alternatives. Discuss, in the Final Environmental Impact Statement, the rationale for each component, how it would be implemented, and how it would support the long term viability of the Bi-state DPS.	Response: Comment noted.
2	Comment: According to the RDEIS, allotments with Bi-state DPS habitat would be completely closed to grazing under Alternative C (pg. 45). This may have benefits to water bodies in the amendment area that may be currently impaired by impacts associated with grazing; however, the proximity of the proposed grazing restrictions to such water bodies is unclear.	Response: The analysis of alternative C and potential beneficial effects of closing livestock grazing on water bodies is not relevant to the potential impacts that closing livestock grazing would have on the livestock program (which is the focus of the analysis). This is a programmatic EIS analyzing the potential effects of the proposed action and alternatives on the resource programs managed by the Forest that may affect bi-state DPS habitat.
3	Comment: We have rated the RDEIS (all alternatives) as LO (Lack of Objections; see enclosed EPA Rating Definitions).	Response: Comment noted.

Nevada Association of Counties Letter Dated October 1, 2014		
Comment Number	Comment	Response
1	Comment: Though only four of Nevada's counties contain bi- state DPS, all of our member counties would like to collectively concur with the comments made by Esmeralda County and submitted to you on September 1, 2014.	Response: Comment noted.
2	Comment: The lack of a thorough and inclusive public participation process	Response: The public were involved during the scoping period from November 2012, to January 2013; during the draft EIS comment period that was open beginning in August 2013 and closed in February 2014; and during the 90-day comment period on the revised draft EIS that opened on July 11, 2014, and closed on October 9, 2014.
3	Comment: Including conservation measures already in place in the "baseline for analysis" represented in Alternative A, which removes the chance to properly quantify economic impacts	Response: The economic analysis for this final EIS discusses the existing condition of the current economic situation under alternative A. The analysis for alternatives B and C discuss the difference that their proposed management direction could have on the existing condition (this is fully disclosed in chapter 3 of this EIS). Since alternatives B and C are programmatic in nature and do not propose specific actions on the ground, the discussion of effects is qualitative in nature. There will be a secondary NEPA analysis when site-specific project actions are proposed within the amendment area, and the economic analysis for those future projects will be able to more quantitatively discuss effects.
4	Comment: Application of regulations to privately held land when split-estate, mineral rights are federally-owned (p. 31). Nevada's counties are especially concerned about the precedent that this sets	Response: If this type of split estate exists then the sage grouse mitigation measures would only apply if the surface owner agreed to them.
5	Comment: The extent and plans for future ground proofing of habitat areas and incorporation of this information for use when carrying out proposed regulations	Response: The Forest Service proposes to use the habitat map created and approved by the Bi-state Sage Grouse Technical Advisory Committee, consisting of representatives from California and Nevada BLM, U.S. Geological Survey, Forest Service, USFWS, and the California and Nevada state wildlife agencies. The May 12, 2012, version of this map is available on the Humboldt-Toiyabe National Forest and BLM websites.
6	Comment: Ensuring that analysis of economic impacts to counties is thorough and informed by comprehensive data	Response: The economic analysis section in the final EIS (chapter 3) discusses the impacts to counties.

Mono County Community Development Department (October 7, 2014)		
Comment Number	Comment	Response
1	Comment: With a few exceptions, the County supports the preferred alternative in the Revised DEIS, despite probable impacts to recreation, grazing, and related economic activities in Mono County	Response: Comment noted
2	Comment: Where changes and modifications can meet the purpose of "conserving, enhancing, and/ or restoring sagebrush and associated habitats to provide for the long-term viability of the Bi-State DPS," outright prohibition would be unnecessary, is unrelated to habitat preservation, and appears to serve other agendas or purposes outside the scope of this amendment.	Response: Comment noted
3	Comment: The County is concerned that this very focused and detailed effort to improve conditions for the Bi-State DPS, while commendable under the current circumstances, could result in unintentional and detrimental impacts to other species and/ or public safety and access issues. For example, situations could exist where fencing, for example a deer fence or livestock fence, along a highway prevents deer/livestock kill, potential loss of life, and property damage compared to very little mortality to a local Bi-State DPS population.	Response: Site-specific project actions, when proposed, would analyze potential issues with any other wildlife habitat conflicts or public safety issues. The management direction here sets up the side bars for what actions are appropriate in bi-state DPS habitat on Federal lands. Such site-specific analysis would be able to address any potential conflicts or concerns such as these on a project-by-project level.
4	Comment: Bi-State DPS habitat on public land in Mono County is managed by three different agencies: Humboldt-Toiyabe National Forest, Bureau of Land Management Bishop Field Office, and the Inyo National Forest. In order for the County to work collaboratively across these jurisdictions, and effectively coordinate County policies and adjacent discretionary private land activities, the County requests consistency in policies and regulations across these three public land managers. The Bi-State Executive Oversight Committee, Technical Advisory Team, and Local Area Working Group are existing forums through which multi-jurisdictional coordination could occur to provide "best practices" consistency across the Bi-State DPS area.	Response: The ongoing effort for the bi-state DPS is being coordinated among agencies, Forests, and Field Offices. For this specific EIS, the Tonopah Field Office and Carson City Field Office of the BLM will be using this EIS for their own amendments to their resource management plans, thereby providing consistent management direction. The Inyo National Forest is conducting its own analysis, but it is expected that the management direction will be in sync with what we are proposing in this document.

Mono County Community Development Department (October 7, 2014)		
Comment Number	Comment	Response
5	Comment: B-AR-S-05 and C-AR-S-04 are both indicated as part of the preferred alternative, yet appear to be mutually exclusive. The County supports B-AR-S-05 which allows for new recreation facilities, and supports eliminating the 3% anthropogenic disturbance limit. Recreation facilities that are beneficial to the Bi-state DPS should be encouraged with no limit, and those that are neutral need not be limited. The County is strongly opposed to C-AR-S-04. An outright prohibition of new recreation facilities is not necessarily related to habitat impacts and therefore does not meet the purpose of the Plan Amendment.	Response: The purpose of the proposed amendment is to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. A full range of alternatives was analyzed to respond to desired habitat conditions (Table 2-1, final EIS). Alternative C, added in response to public comment, lists additional restrictions to address issues brought forward, including habitat fragmentation from roads and weed vectors, noise, and concentration of users, all of which could occur during construction or use of new recreation facilities.
6	Comment: To facilitate the implementation of B-LUSU-S-05, the acquisition of all inholdings that include Bi-State DPS habitat, the land acquisition plan should also include lands in California and Nevada of lower resource value that can be traded into private property ownership. To meet Mono County policies, the disposal lands would need to be located within or adjacent to existing communities, and the County has a preference for no net loss of the property tax base. In addition, the County hosts a Landownership Adjustment Subcommittee under the Collaborative Planning Team to collaborate on potential ownership adjustments, and is supportive of the consolidation of resource lands and inholdings by a resource management agency such as the US Forest Service	Response: The Forest Service and BLM have not proposed any land acquisitions to protect bi-state DPS habitat. While private inholdings may contain primary and/or connective bi-state DPS habitat, management actions proposed under the revised draft EIS would only apply to Federal lands.
7	Comment: The County is concerned that C-LUSU-S-09, which prohibits new communication sites, prevents the ability to address public safety issues. Major travel corridors may have blackout areas that lack cell phone coverage, a serious public safety concern in sparsely populated, rural areas. Outright prohibition may also force towers to be installed on lands under other ownership, even if impacts to the Bi-State DPS are greater at that location. The County suggests including language that provides for public safety needs, and contains clear design and location requirements to mitigate impacts on an area-wide basis (e.g. provides for the selection of the least harmful location).	Response: The purpose of the proposed amendment is to conserve, enhance, and/or restore sagebrush and associated habitats to provide for the long-term viability of the bi-state DPS. A full range of alternatives was analyzed to respond to desired habitat conditions (Table 2-1, final EIS). Alternative C, added in response to public comment, lists additional restrictions to address issues brought forward, including increased predation near high structures, habitat fragmentation from roads and infrastructure, and noise from maintenance and associated activities.

Mono County Community Development Department (October 7, 2014)		
Comment Number	Comment	Response
8	Comment: On mid-page 48 and the top of page 52, the Revised DEIS states "503.6 miles of travel routes pass through the 5-mile buffer around active leks." Table 2-4, which compares the alternatives and defines the preferred alternative, does not identify any guidelines or standards related to a 5-mile buffer around active leks. Depending on the restrictions that may be applied within this buffer, Mono County could experience severe economic impacts due to curtailed events; impacts to valid, existing access rights; and impacts to the ability to provide for public safety. The County requests additional information on the justification, application, and consequences of this 5-mile buffer and, if necessary, an appropriate amount of time to work through potential impacts with the HTNF	Response: While it could have been explained more clearly in the section, the 5-mile figure was to describe existing condition only, and was not meant as a guideline or standard. The purpose was to show density of existing roads within an established radius of leks. Five miles was chosen as a means to illustrate distance from a perspective that could be readily understood and shown for an amendment area that spans thousands of acres.

U.S. Fish and Wildlife Service Letter Dated October 14, 2014		
Comment Number	Comment	Response
1	Comment: With respect to land allocations, our position is to exclude or avoid discretionary actions with potential to impact BSSG or its habitat. We believe the Amendment/EIS is currently unclear regarding some land use allocations and would benefit from a table that clearly summarizes land allocation decisions pertaining to discretionary actions. As an example, we have enclosed (Enclosure B) an allocations table designed for the range-wide greater sage-grouse planning efforts in the "Nevada and Northeastern California Greater Sage-Grouse Draft Proposed Land Use Plan Amendment and Final Environmental Impact Statement: Proposed Plan" (BLMIUSFS 2014a; hereafter LUPA). We would request such a table be constructed for the BSSG as well, and incorporated into the Final Amendment/EIS.	Response: A "land use allocation" is a planning term and method used in BLM planning processes. We are following the Forest Service planning process, we use goals, objectives, and standards and guidelines as defined by CFR. Please see the glossary of the final EIS for further details.

U.S. Fish and Wildlife Service Letter Dated October 14, 2014		
Comment Number	Comment	Response
2	Comment: The Amendment/EIS includes a three percent cap on anthropogenic disturbance to BSSG habitat. The plan needs to more fully explain many aspects of this proposed in order for us to fully evaluate its effectiveness (e.g., what is the current baseline of disturbance, does the cap include existing disturbances, does the cap include natural disturbance, how is the percent disturbance calculated (i.e., what is the denominator)). However, because of the BSSG's restricted range, its small and isolated population structure, and the critical nature of all its habitat, we believe that no anthropogenic disturbance resulting in the loss or conversion of suitable habitat to a non-suitable condition should be allowed in BSSG habitat. Consequently, we recommend a zero percent disturbance cap on discretionary actions that impact BSSG or its habitat.	Response: While a 3 percent disturbance cap has been included in the proposed action since the draft EIS, there have always been questions regarding how it would be calculated and implemented. The revised draft introduces the "no net unmitigated loss" of habitat which is much easier to comprehend and does not provide for the incremental reduction of available habitat through the 3 percent process. It is the no net loss of habitat standard that is being included in the preferred alternative.
3	Comment: We consider monitoring the implementation and effectiveness of actions delineated in the Amendment/EIS essential to secure long-term conservation of BSSG and its habitat. Monitoring is mentioned throughout the Amendment/EIS, but no specific approach is identified. We recommend researching the monitoring framework described in the LUPA (their Appendix F), and potentially incorporating the BLM/USFS "The Greater Sage-Grouse Monitoring Framework/C" (BLM/USFS 2014b) in the Amendment/EIS	Response: The Forest Service Planning Rule requires a monitoring plan for the entirety of the LRMP. Elements specific to bi-state DPS monitoring have been included in this EIS and will be added to the overall monitoring plan for the Humboldt-Toiyabe.
4	Comment: Furthermore, the Amendment/EIS lacks any serious discussion of adaptive management. The ability to alter management direction based on lessons learned during implementation of the actions specified in the Amendment/EIS, will be critical in maintaining the BSSG and its habitat into the future. We strongly recommend the inclusion of an adaptive management strategy that details how adaptive management will be incorporated into BSSG management, lists specific adaptive management triggers, and specifies actions to be taken if a trigger is reached. We recommend examination, and potential incorporation, of the adaptive management guidance as provided in the LUPA.	Response: The Forest Service planning process has built-in adaptive management direction. When new information comes to light that demands the review of resource specialist, a supplemental information report will be created. If there is additional need beyond the report to change management direction in the LRMP, then an EIS will have to be conducted to amend the plan. Amendments to forest plans occur quite frequently throughout the agency and have been successful in responding to changed conditions on the ground.

U.S. Fish and Wildlife Service Letter Dated October 14, 2014		
Comment Number	Comment	Response
5	Comment: Similarly, mitigation is mentioned at several places in the Amendment/EIS, but specific information on implementation is not provided. It is our understanding that mitigation will be required for all projects which impact BSSG populations or habitats through a "no net unmitigated loss" policy. However, we could not find any discussion of exactly what this means, or how this will be accomplished (e.g., mitigation ratios, additionally, mitigation resilience, etc.). We recommend the Amendment/EIS include a detailed mitigation plan following the tenets of the recently released "Greater Sage-Grouse Range-Wide Mitigation Framework/C" (USFWS 2014).	Response: In the Forest Service, LRMP management direction sets the "side boards" for specific project proposals. Plan direction is considered "programmatic" while site-specific NEPA actions on Forest Service lands are analyzed at the "project" level. We believe the proposed goals, objectives, and standards and guidelines provide enough direction to ensure that project-specific design features and mitigation measures will ensure the restoration and protection of the bi-state DPS habitat. The best way to do something changes frequently as the science improves. Therefore, having specific mitigation at the planning level is not prudent.
6	Comment: The Amendment/EIS discusses buffers, primarily for leks, at several places, but lacks a unified discussion of buffers. As a result, we are unable determine if the plan contains a consistent approach to buffer application, or if conflicts remain. We recommend including a summary table that identifies all buffers by resource (noise, range management structures, fences, tall structures, etc.), and when appropriate, by BSSG seasonal habitat phenology. This table would clarify how buffers provide added protection to various key seasonal habitats.	Response: The buffers were summarized in a table and the table is being included in the project record. Table 2-4 represents all of the proposed standards and guidelines and should be the sole location and tool for comparison of the alternatives.

U.S. Fish and Wildlife Service Letter Dated October 14, 2014		
Comment Number	Comment	Response
7	<p>Comment: Conservation Objectives Team report (USFWS 2013, Conservation Objectives Team) indicates that managing for proper grazing in greater sage-grouse habitat will require monitoring of the habitat conditions. A key component to meeting this Conservation Objectives Team objective is to provide assurances that the resources needed to conduct Land Health Standards (LHS) evaluations will be available, and the willingness to rigorously enforce grazing standards will be demonstrated. Therefore, we recommend that the Amendment/EIS provide a timetable for the completion of LHS or alternative allotment evaluations, state a firm commitment to allocate the necessary resources to meet these commitments, and clearly identify standards and guidelines regarding the closure of allotments not meeting LHS until such time as LHS are re-established. We recommend a commitment to completing 25 percent of LHS evaluations every year, and then repeating these evaluations every four years. Once LHS evaluations are caught up, we recommend committing resources to maintain these evaluations as current.</p>	<p>Response: The Forest Service planning process does not allow for commitments of resources or specific discrete actions, like surveys, to be agreed to at this level. Budgets and resources are always changing.</p>
8	<p>Comment: We maintain that proper livestock grazing, in the absence of cheatgrass (<i>Bromus tectorum</i>), is compatible with sage-grouse conservation. However, improperly managed livestock grazing can facilitate the dominance of invasive annual grasses, in addition to other consequences (Connelly et al. 2004, Pyke 2011, Reisner et al. 2013). Part of defining what levels of grazing are "proper" includes knowledge of what levels of grazing can occur that will not facilitate the dominance of invasive species such as cheatgrass. When implementing the final selected alternative, the BLM and USFS should ensure a wide variety of grazing practices are employed and evaluated for their facilitation of cheatgrass dominance</p>	<p>Response: The proposed amendment will reduce utilization levels as well as other impacts to bi-state DPS habitat which should reduce opportunities for cheatgrass spread. To meet the bi-state DPS desired habitat conditions, changes may need to be made to grazing management strategies. For grazing management strategies to be most effective at limiting cheatgrass spread, they should be developed at the allotment level and take into account local factors such as climate, vegetation communities, soils, and topography</p>

U.S. Fish and Wildlife Service Letter Dated October 14, 2014		
Comment Number	Comment	Response
9	Comment: We recommend establishing and implementing a decision framework for rangeland management actions (including livestock and wild equids). We recommend reviewing Chambers et al. (2013) and incorporating the management strategies identified in Table 2 of that manuscript into the Amendment/EIS	Response: The Forest Service planning rule is specific about what kinds of items are required plan components. These items include desired future condition, goals, objectives, and standards and guidelines (219.7 (1)(2)). These terms are defined in the attached glossary. These plan components guide decision making. However, they do not create a specific decision framework of “if this, then that” statements. These components simply set up the side boards for the secondary site-specific NEPA analyses that are tied to particular geographic spots on the Federal systems lands. It is through this secondary site-specific process that decisions are made using detailed information and quantitative analyses that give the decision maker a more robust picture of expected effects from explicit proposed actions on the ground.
10	Comment: We are aware of, and appreciate, the challenges faced by land management agencies in achieving current Allowable Management Levels (AML) for wild equids. However, we also seek a better understanding of the basis for your assumption that existing AMLs are adequate for BSSG. We recommend the Amendment/EIS include commitments to properly manage wild equids, including revising existing AMLs, to the extent necessary to ensure effective greater sage-grouse conservation.	Response: Standard B-WHB-S-01 applies to both alternatives B and C. This standard requires that appropriate management levels (AMLs) be set to achieve bi-state DPS desired habitat conditions. Each herd management area/wild horse and burro territory will need to be assessed in order to determine whether or not the existing AML and management plan are adequate. If found to be inappropriate, AMLs and/or management plans would need to be adjusted to ensure that wild horse and burro populations can be managed to meet bi-state DPS desired habitat conditions.

Nevada Department of Wildlife Dated October 9, 2014		
Comment Number	Comment	Response
1	Comment: We anticipate that Table 2.1 will be updated to reflect changes that have been made to Table 2.6 from the Nevada and Northeastern California Greater Sage-grouse Draft Land Use Plan Amendment and EIS.	Response: Table 2.1 has been updated to reflect the desired habitat conditions described in Table 2-6 of the Nevada and Northeastern California Greater Sage-grouse Draft Land Use Plan Amendment and EIS.
2	Comment: On page 18, under the monitoring section, we would like more clarity on how monitoring will be consistent between agencies with clear objectives on what is to be achieved from monitoring. Will this monitoring activity also match monitoring as defined for the remaining range of the Greater Sage-grouse in Nevada? We believe a consistent approach will ease land use planning and improve mitigation assessments, when required. Additionally, we recommend including a timeframe for completion	Response: There are no changes to the “Monitoring” section on page 18. The Bi-state DPS Executive Oversight Committee has directed the Technical Advisory Committee to develop a comprehensive range-wide monitoring plan for the Bi-state DPS by mid-year of 2015. As a partner in the Executive Oversight Committee and Technical Advisory Committee the Forest will participate in the implementation of that monitoring plan once it is complete.

Nevada Department of Wildlife Dated October 9, 2014		
Comment Number	Comment	Response
3	Comment: It is unclear if the Goals and Objectives described in Table 2.3 fully address the threats as identified in the USFWS proposed listing rule. We believe this table should address the identified threats directly (i.e., nonnative and native invasive species; wildfires and altered fire regime; infrastructure; urbanization and habitat conversion; mining; renewable energy development and associated infrastructure; disease and predation; climate change, including drought; and recreation	Response: Goals and objective are defined in the glossary of the final EIS.
4	Comment: We do not fully understand the application of “Standards” and “Guidelines”, their definitions, and how they crosswalk to BLM terminology (e.g., “required design features”). For clarity, we recommend some background on these terms, their application, and how they translate into BLM nomenclature.	Response: The final EIS will “translate” the Forest Service objectives, and standards and guidelines into BLM nomenclature. Standards and guidelines are defined in the glossary in the final EIS.
5	Comment: We recommend strengthening the mitigation discussion within the DEIS as it currently lacks specificity and doesn’t appear to provide adequate assurances that the Bi-state Sage-grouse will be protected or conserved. Specifically, we recommend defining all mitigation terms (e.g. “no net unmitigated loss”), providing thorough details as to how mitigation will be determined and implemented, and centralizing this information within the DEIS. In drafting the mitigation discussion, we recommend closely following the “Greater Sage-Grouse Range-Wide Mitigation Framework”.	Response: Mitigation is a fairly general term that includes any action taken to avoid, minimize, rectify, reduce, or compensate for impacts from a proposed action. Given the array of potential actions that could be proposed across the range and the great diversity of possible mitigation measures that could be applied to avoid, minimize, rectify, reduce, or compensate for the potential impacts, it is an unrealistic expectation to provide thorough details as to how mitigations would be determined and implemented.

Nevada Department of Wildlife Dated October 9, 2014		
Comment Number	Comment	Response
6	<p>Comment: Define “no net unmitigated loss”. Define indirect and direct disturbances.</p> <p>What does the 3% disturbance cap include (e.g., permitted disturbance only, existing disturbances)? Is this 3% per section, PMU, or the entire Bi-state area (i.e., how will it be calculated)? Why a 1.5% cap for the pine Nut PMU (C-Wild-S-05)?</p> <p>Clearly articulate the mitigation rules</p> <p>How is “no net loss” calculated? What are the metrics and accounting system being utilized?</p> <p>Does this apply to indirect and direct disturbances?</p> <p>What are the steps in the mitigation process?</p> <p>Where is the mitigation occurring and how is this being determined?</p> <p>What is the appropriate type of restoration project?</p> <p>How is mitigation success being measured?</p> <p>How is lag time being dealt with? o Are mitigation ratio's being used? o Are credits being offered?</p>	<p>Response: While a 3 percent disturbance cap has been included in the proposed action since the draft EIS, there have always been questions regarding how it would be calculated and implemented. The revised draft introduces the “no net unmitigated loss” of habitat which is much easier to comprehend and does not provide for the incremental reduction of available habitat through the 3 percent process. It is the no net loss of habitat standard that is being included in the preferred alternative.</p>
7	<p>Comment: We are uncertain if a thorough baseline assessment and goals, objectives, and direction can be developed and included in the DEIS due to timing limitations (i.e., decision documents unavailable for the DEIS), but we and the USFWS recognize the need. Therefore, if such details cannot be included in the DEIS, at a minimum, we recommend including a framework, with commitments and timeframes, so that the USFWS will have assurances when making a final determination on the listing decision.</p>	<p>Response: The Forest Service planning rule is specific about what kinds of items are required plan components. These items include desired future condition, goals, objectives, and standards and guidelines (219.7 (1)(2)). These terms are defined in the attached glossary. These plan components guide decision making. However, they do not create a specific decision framework of “if this, then that” statements. These components simply set up the sideboards for the secondary site-specific NEPA analyses that are tied to particular geographic spots on Federal system lands. It is through this secondary site-specific process that decisions are made using detailed information and quantitative analyses that give the decision maker a more robust picture of expected effects from explicit proposed actions on the ground.</p>

American Bird Conservancy Letter Dated October 9, 2014		
Comment Number	Comment	Response
1	Comment: The Revised Draft Environmental Impact Statement does not follow all of the best available science, or adopt management standards necessary to address all threats, conserve grouse habitat and prevent fragmentation, or provide clear protection for the largest blocks of occupied grouse habitat. In many instances the conservation alternative C provided the correct standard, but it was not applied in the preferred, or it was included as a guideline instead of a standard.	Response: Alternatives are developed to allow the decision maker a range of regulatory mechanisms to address various issues. This range allows the decision maker to see what the potential environmental impacts would be and base the decision accordingly. The range is also required by law in order to meet the “hard look” requirement of NEPA.
2	Comment: ABC is also concerned that the Inyo National Forest and Bishop Field Office of the Bureau of Land Management, which also harbor Bi-State Greater Sage Grouse are not included in this planning effort.	Response: The Inyo National Forest and the Bishop Field Office are undergoing their own efforts to address bi-state DPS protections.
3	Comment: It is very disappointing that the revised draft did not consider the designation of reserves as one strategy to devise an adequate regulatory mechanism to conserve Bi-State Sage Grouse. In comments on the draft it was recommended that the agency identify large blocks of suitable habitat and analyze the likely effects of preserving these habitats on the viability of grouse populations. Research Natural Areas where management disturbances are not allowed should be designated in the Bodie and South Mono areas to preserve these larger, core populations and to ameliorate the extensive cumulative impacts that have resulted from past and ongoing management activities.	Response: Our decision, based on the analysis in the final EIS, is to identify a set of goals, objectives, and standards and guidelines that would serve as management direction for ongoing and proposed activities in sage grouse habitat for the next 20 years. The designation of research natural areas or other reserves would not meet the purpose and need of this project to implement regulatory mechanisms that would protect and enhance habitat across the landscape.
4	Comment: Unfortunately for fluid mineral development, this is only included as a guideline and the 3% standard does not apply to other anthropogenic activities. We urge that this 3% cap be a standard that considers all habitat disturbing activities	Response: The 3 percent disturbance cap is proposed in various places: under access/recreation (C-AR-S01 & B-AR-S-05); under wildlife (C-Wild-S-04); as well as minerals (B-Min-G-05). Upon further review these different standards and guidelines address disturbance for the bi-state DPS habitat within the planning boundary.
5	Comment: The analysis of grazing in the draft took an all or nothing approach which provided for 0 acres of grazing in alternative C, and 2,118,811 acres in the preferred alternative B. An analysis somewhere in the middle that assessed the potential benefits of reduced grazing or utilizing grazing allotment retirement, particularly for areas that do not currently meet range health standards would have been more useful.	Response: By having alternatives that analyze the “ceiling” as well as the “floor” of a range of options, we can disclose the effects of these “bookends” and make any needed modifications in management language in the decision knowing that the potential effects of those modifications were considered (as long as those effects fall within the range analyzed).

American Bird Conservancy Letter Dated October 9, 2014		
Comment Number	Comment	Response
6	Comment: The analysis on weeds also failed to adequately consider the impact of grazing on the spread of invasive weeds. Removing cattle as proposed in alternative C should show a reduction in weed infestations.	Response: The purpose and need for this project is not to analyze the effects of grazing on weeds, but the effects of management of grazing and other resource management programs on the bi-state DPS.
7	Comment: In regard to weeds and annual grasses the proposed regulatory mechanism to address this threat fails to include grazing as a cause of cheatgrass spread or measures to mitigate or eliminate this threat.	Response: This is outside the scope of the analysis, see above response.
8	Comment: Additional restrictions to prevent surface occupancy or exploration and mining of locatable minerals is needed since in the preferred alternative it would still be allowed in priority habitat. We recommend that BLM petition to withdraw the locatable mineral rights from priority habitat areas.	Response: There is no "priority" habitat, just habitat due to the limited nature of the bi-state DPS range. Also, C-Min-S-04 considers no leasing unless under no-surface-occupancy stipulations.
9	Comment: The road system needs to be better managed for grouse conservation because their impact is large; "Of the designated travel routes within the amendment area, 388 miles pass through active sage grouse leks and 58.4 through inactive leks p.26)."	Response: The revised draft EIS and final EIS removed this paragraph and revised its discussion about the miles of road passing through leks; please see the "Effects on the Management of Access to Federal Lands" for updated information.
10	Comment: The Scorecard for Greater Sage-Grouse Conservation is a synthesis of the government's own scientific experts' recommendations in the National Technical Team (NTT) report to "ensure that management actions are effective and based on the best available science" to conserve the Greater Sage-Grouse and its habitat. It was developed by American Bird Conservancy (ABC), Center for Biological Diversity, Wildearth Guardians and sage grouse conservation experts	Response: The management direction developed and analyzed in this EIS is based on recommendations from the Conservation Objectives Team report as well as the National Technical Team report. The management direction was crafted to specifically address the threats to bi-state DPS identified by the USFWS.

American Bird Conservancy Letter Dated October 9, 2014		
Comment Number	Comment	Response
11	Comment: The Core Problem: Wyoming Core Area Strategy Not Enough to Reverse Grouse Decline. The state of Wyoming, where about 37 percent of remaining sage-grouse live, has led the way on sage-grouse conservation. It completed the first statewide conservation strategy based on the concept of conserving areas of core habitat for sage-grouse. Core areas are those critical places, like breeding sites, that are essential to sage-grouse survival and which, if properly preserved, would help ensure the species conservation and recovery. The state of Wyoming considers its plan a model that federal agencies and other states should use to alleviate the need to federally protect the species	Response: While that is useful for Wyoming and the greater sage-grouse, we used science that was more relevant to Nevada and California and focused on the bi-state DPS.
12	Comment: Western Watersheds Project released a report critiquing the analysis of livestock grazing in the fifteen plans that are supposed to address impacts to Greater sage-grouse habitat on 60 million acres of public lands.	Response: Comment noted.
13	Comment: A review of the Inyo National Forest Draft Assessment report by WildEarth Guardians raises concern that the Forest Service is not utilizing the best available science to determine Bi-State Greater Sage Grouse recommendations. We urge the agency review the attached comment letter and incorporate its recommendations including examining the efficacy of imposing a 3% cap on human-caused disturbance; limiting development to one site per square mile; no surface occupancy and disturbance buffers of 2 and 4 miles; setbacks of 2 miles from leks for new road rights of way and power lines; a moratorium on new fences, and removing fences from grouse habitat; livestock grazing thresholds to achieve minimum stubble heights. Also attached are scoping comments on the proposed Inyo forest plan revision	Response: Inyo National Forest is not part of this effort and has its own comment period that you can comment to.
14	Comment: Below is American Bird Conservancy's comment letter on the grouse's proposed threatened listing, 4- d rule, and draft environmental impact statement. Based on the available information and current conservation measures, and our review of the draft environmental impact statement, ABC recommended an endangered listing for the DPS	Response: The Forest Service is not responsible for the listing of the bi-state DPS. While the comments are noted, they should be sent to the USFWS.

American Bird Conservancy Letter Dated October 9, 2014		
Comment Number	Comment	Response
15	Comment: Future development of both geothermal and wind energy is anticipated in the planning which will add to existing impacts due to resulting road traffic, power lines, towers and other features grouse are documented to avoid. These threats indicate that creating some grazing and energy-development free areas is necessary to provide habitat and reduce the risks created by further grazing. There should be no wind turbine development within six miles of leks	Response: B-LUSU-G-02 and C-LUSU-S-02 discuss the development of industrial wind facilities considering limitations as well as not allowing authorization of their development.
16	Comment: Government studies show protected areas are necessary to conserve Greater sage grouse: A new report by the U.S. Geological Survey (USGS) and other peer-reviewed research indicate that conserving the Greater Sage-Grouse will require both protecting large areas of habitat and making significant changes in land management to reverse population declines of this wide-ranging species.	Response: Creating bi-state DPS reserves is beyond the scope of this EIS. While we provide options for management direction, having specific reserves for this species would require a separate process that would include congressional involvement.
17	Comment: The Conservation Objectives Team report developed by the U.S. Fish and Wildlife Service identifies Priority Areas for Conservation for sage-grouse. These areas are key for sage-grouse conservation and should be specially protected for grouse and other sagebrush-dependent species. The importance of this report is that to ensure grouse populations will persist over time, some areas need a much higher level of protection	Response: We use the Conservation Objectives Team and National Technical Team as the basis for our management direction. We have even included management direction more specific and restrictive than these reports discuss.
18	Comment: The National Technical Team (NTT) report defines "discrete" disturbances to include roads, transmission lines, oil and gas wells, wind turbines and similar, definite development (SGNTT 2011: 8). The three percent disturbance threshold does not include "diffuse" disturbances; the NTT report identifies livestock grazing and fire (depending on the scale and effects) as diffuse disturbance (SGNTT 2011: 8). We are concerned that the NTT report defines the pervasive, tangible, cumulative effects of livestock grazing as "diffuse." The NTT report notes that "diffuse disturbance over broad spatial and temporal scales can have similar, but less visible effects" (SGNTT 2011: 8). The BLM and USFS should consider heavily grazed areas and range developments as discrete disturbance in sagebrush steppe	Response: We use the Conservation Objectives Team and National Technical Team as the basis for our management direction. We have even included management direction more specific and restrictive than these reports discuss.

American Bird Conservancy Letter Dated October 9, 2014		
Comment Number	Comment	Response
19	Comment: During scoping, conservation groups submitted to the Bureau of Land Management (BLM) a comprehensive conservation alternative to support and inform the planning process attached to this comment and available at http://bit.ly/KdDwD8 . In our view, this conservation alternative represents what is necessary to conserve Greater Sage-Grouse in perpetuity, and to provide the agency with an appropriate regulatory framework to manage the land moving forward. We urge that its recommendations, some of which are reiterated in the text of this comment letter, be included in the final EIS and RMP... The Sage-Grouse Recovery Alternative prescribes additional, and more restrictive, conservation measures than the Report on National Greater Sage-grouse Conservation Measures.	Response: This project is led by the Forest Service, and we are proposing and analyzing specific management direction according to Forest Service regulations. While BLM is a cooperator, they will be making a separate decision and will be cross-walking the management direction language into the needed format for their organization. Since our management direction analyzed in this EIS is more restrictive than the National Technical Team or the Conservation Objectives Team reports, we believe they will be sufficient for protection of the species.
20	Comment: BLM planning guidance requires that the agency address planning issues and follow planning criteria when developing and revising land use plans (BLM Handbook 1610-1).	Response: This project is led by the Forest Service, and the BLM is a cooperator in this project. The BLM has agreed to follow Forest Service handbook and manual regulation for this NEPA process. The BLM will be using this EIS on which to base their decision, and will document that decision in their own record of decision. In addition, we believe our management direction addresses many of the concerns you bring up here. Please see Table 2-4 in the EIS.
21	Comment: Removing domestic livestock from federal public lands will support the recovery of sage-grouse and other threatened species.	Response: There is a "no grazing" alternative, alternative C, considered in the EIS.
22	Comment: Beschta, R. L., D. L. Donahue, D. A. DellaSala, J. J. Rhodes, J. R. Karr, M. H. O'Brien, T. L. Fleischner, C. Deacon-Williams, Cindy. 2012. Adapting to climate change on western public lands: addressing the ecological effects of domestic, wild, and feral ungulates. Environmental Management, available at http://fes.forestry.oregonstate.edu/sites/fes.forestry.oregonstate.edu/files/PDFs/Beschta/Beschta_2	Response: Other references were used to discuss the environmental impacts of domestic livestock, wild horse and burro, and wild ungulate grazing. Climate change will have no effect on how the regulatory mechanisms in the proposed amendment are eventually implemented. For more information see the "Climate Change" section of the final EIS.
23	Comment: Excerpts from the Conservation Alternative on Grazing.	Response: There is a "no grazing" alternative, alternative C, considered in the EIS. This alternative addresses the concern with eliminating grazing as a management activity within bi-state DPS habitat.

American Bird Conservancy Letter Dated October 9, 2014		
Comment Number	Comment	Response
24	<p>Comment: The first study to show that sage grouse conservation measures benefit migratory mule deer hit the press Monday, Sept. 29, with its publication in the online Journal, Ecosphere.</p> <p>"This study underscores the simple idea that keeping sagebrush habitats intact through Wyoming's core area policy and conservation easements will have additional benefits for mule deer habitat," says Holly Copeland, a research scientist with The Nature Conservancy in Wyoming and lead author of the paper.</p>	<p>Response: Comment noted.</p>
25	<p>Comment: The ripple effect of recreation spending on federal lands managed by the Bureau of Land Management in the form of indirect and induced investments produced a total economic output of \$1.06 billion, including \$172 million in Idaho, \$152 million in Montana, \$119 million in Nevada, \$108 million in Wyoming and \$103 million in Oregon, the report said. Pew commissioned the study with the Western Values Project. "Protecting greater sage-grouse habitat is not just wise conservation policy, but also sound economic policy for the West," said Ken Rait, director of Pew's U.S. public lands project. The report is available at http://westernvaluesproject.org/wp-content/uploads/2014/09/2014-0930-Rec-Spending-BLM-Lands-Report.pdf</p>	<p>Response: This article extrapolates the percent of sagebrush-covered lands to total BLM-administered lands and estimates that a percentage of total visitor use occurs on those lands, though there is no data to show exclusive use of sagebrush lands. Although this was very informative, it is difficult to tie this to anything in our EIS because of that fact, except perhaps to state that visitors to BLM lands spend a certain amount of money and that activities likely occur in sagebrush. Interestingly, the majority activity was camping and OHV use was 12 percent (the second most popular).</p>
26	<p>Comment: Agency Sage Grouse Review Wrongly Puts Thumb on Scale to Magnify Feral Horse and Burro Effects: The method used by the U.S. Bureau of Land Management to assess range conditions is skewed toward minimizing impacts from domestic livestock and magnifying those from wild horses and burros, according to an appraisal by Public Employees for Environmental Responsibility (PEER). As a result, the BLM's approach to range management targets scattered feral ungulates while ignoring far more numerous cattle.</p>	<p>Response: The methods used by BLM to assess range conditions are outside the scope of this analysis. Refer to the "Affected Environment" section in the livestock grazing report for a discussion on range conditions in the amendment area.</p>

Resource Concepts Inc. Dated October 9, 2014		
Comment Number	Comment	Response
1	Comment: A thorough review of the DEIS found the analysis of the effects to domestic livestock grazing to be disappointing, incomplete, and unacceptable. The RDEIS is inconsistent with the recent U.S. Fish and Wildlife Service (FWS) findings for the Bi-State DPS, does not include adequate analyses of the impacts to domestic livestock grazing based on the best available science and does not rigorously explore all reasonable alternatives.	Response: Comment noted.
2	Comment: The RDEIS is now outdated and does not even correctly identify the current status of the Bi State DPS as 'proposed threatened' (formerly 'warranted but precluded').	Response: The FEIS was edited to accurately describe the status of the species. This information can be found in the "Background" section of chapter 1.
3	Comment: This most current analysis concluded that the Bi-State DPS populations are stable, with the exception of a small population at Parker Meadows which is outside the RDEIS area. This is critically important information that must be added to Chapter 3 and the description of the Affected Environment and used in the evaluation of the No Action Alternative.	Response: The proposed action and alternatives look at ways to restore, enhance, and conserve sagebrush habitat. That Coates and others found that populations were stable is encouraging, but not key to the analysis. Key to the analysis is that there is sufficient habitat for the stable population now and into the future.
4	Comment: The analysis of Indirect Impacts to sage-grouse habitat from the proposed forage utilization standards (Table 3-14) is incomplete	Response: The livestock grazing specialist report was updated to discuss indirect impacts from alternatives B and C to private lands and livestock operations.
5	Comment: The Indirect impacts to Important sage-grouse habitat that would result from the proposed forage utilization standards (Table 3 14) are grossly underestimated. If livestock are required to be removed from federally managed rangelands prior to the end of the permitted grazing season on a 3-5 day notice a livestock operator may have no option other than to move their livestock to private land and irrigated pasture, i.e. critical brood rearing habitat, for the remainder of the permitted grazing season.	Response: The 3- to 5-day window in the table is reflective of current management practices, and is appropriate. Currently, once utilization levels are reached, the permittee moves his stock to the next pasture/allotment or home.
6	Comment: The importance of the indirect impacts to sage-grouse habitats on private land associated with federal grazing allotments were not considered in the RDEIS	Response: The livestock grazing specialist report was updated to discuss indirect impacts from alternatives B and C to private lands and livestock operations as well as the importance of private working lands to bi-state DPS conservation.

Resource Concepts Inc. Dated October 9, 2014		
Comment Number	Comment	Response
7	Comment: A recent publication from the Sage Grouse Initiative (2014) reported on research that included the Bi-State area. Patrick Donnelly with the intermountain West Joint Venture/U. S. Fish and Wildlife Service found a strong link between wet sites, which are essential summer habitat for sage-grouse brood rearing, and the distribution of sage-grouse leks. The study found the 85% of leks were clustered within 6 miles of these wet summer habitats. Moreover, although wet habitats cover less than 2% of the western landscape, more than 80% of these critical habitats are located on private lands. The study states: Sage grouse success is Inextricably linked to ranching and farming In the West. Conservation must consider the connection between seasonal habitats on public and private lands and involve cooperative efforts with private landowners (emphasis added).	Response: The information in this publication was used to discuss the importance of private working lands to bi-state DPS conservation in the livestock grazing specialist report.
8	Comment: The RDEIS falls to clearly set forth the grounds on which the proposed livestock utilization standards (Table 3-14) are based	Response: The livestock grazing specialist report was updated to further clarify the proposed utilization standards and the reason for them.
9	Comment: The references cited for Table 3-14 do not In any way make a rational connection between the proposed forage utilization standards and the achievement of desired habitat conditions.	Response: The livestock grazing specialist report was updated to further clarify the proposed utilization standards and the reason for them. The references were updated as well.
10	Comment: The RDEIS does not acknowledge the Inherent administrative problems with the proposed action.	Response: As discussed in the livestock grazing specialist report, under current management, grazing permittees are responsible for ensuring that they manage their livestock to comply with the terms and conditions and utilization standards in their grazing permits. When utilization levels are reached, permittees must move their livestock to the next scheduled pasture or allotment, or off of Federal allotments. The Forest Service and BLM rangeland management specialists are responsible for monitoring compliance with the terms and conditions of grazing permits, not directing livestock movements.

Resource Concepts Inc. Dated October 9, 2014		
Comment Number	Comment	Response
11	Comment: Recently, Idaho District Court Judge B. Lynn Winmill (US District Court 2014) pointed out that the existence of a viable but unexamined alternative renders an environmental Impact statement inadequate. The RDEIS falls to analyze a viable alternative that emphasizes livestock operator involvement in evaluating rangeland objectives and formulating specific action plans, and does not provide the opportunity for ranchers to participate in allotment management planning. According to Platts (1990) the Forest Service Range Manual (2200) and Handbook(FSH 2209), as required by Section 8 of PRIA, require that permittees be involved in the range analysis and planning processes	Response: Livestock operators are intricately involved in the elevation of rangeland objectives through there term grazing permit and the annual operating plans. Their involvement is described in the Forest Service manual and handbook. An alternate reiterating the level of involvement from the manual and handbook or PRIA (Public Rangelands Improvement Act) would be redundant and unnecessary. Nothing in the proposed action or alternative would diminish this manual and handbook direction.
12	Comment: An effective, nondiscretionary alternative that was not analyzed for management of domestic livestock grazing would follow the existing model provided in the Bi-State Action Plan that has been endorsed by FWS.	Response: An alternative that followed existing models provided by the Bi-state Action Plan would be redundant with the no-action alternative.

AEMA Letter Dated October 9, 2014		
Comment Number	Comment	Response
1	<p>Comment: P 13. Precluding mineral development by way of surface use restrictions, validity exams and mineral withdrawals is not consistent with agency mandates under NFMA, MUSY, FLPMA, or provide consistency with existing USFS policy for locatable exploration and mining which provides that a reasonable plan of operations must be processed and approved if the mineral estate is open to entry (See DLUPA/RDEIS at 108). The above noted management actions are also inconsistent with MMPA and BLM policy for locatable minerals, to recognize the Nation's need for domestic mineral sources or balance resources. AEMA contends that full implementation of existing regulatory tools – including required conservation and mitigation measures, like those found under FLPMA's 3809, unnecessary and undue degradation regulations– are adequate to ensure environmentally sound mineral development that is compatible with sage-grouse conservation.</p>	<p>Response: Surface use restrictions such as timing limitations are currently used by both agencies on a regular basis to protect certain wildlife and vegetation species. Alternative C, if chosen, would petition the BLM to withdraw the habitat from location. The petition for withdrawal would have to be accompanied by detailed mineral potential reports and other data and would not assure that the withdrawal proposal would be approved. At the petition process is when the consistency with NFMA, MUSY, FLPMA, and others would be examined.</p>
2	<p>Comment: P 15. In addition, the impact analysis lacks sufficient detail to make an informed decision. Specifically the impact analysis lacks any useful discussion of the intensity of the impacts. For example, USFS and BLM fail to provide any detail or analysis that the disturbance caps and various surface use restrictions will have on locatable minerals and fail to recognize the indirect and cumulative impacts resulting from surface use restrictions, such as ROW permit denials, which will ultimately lead to de facto withdrawals.</p> <p>To that end, USFS and BLM must discuss how the management actions under one program (land use/special use or lands and realty) will have on the management of another (minerals). For example if USFS and BLM make it impossible to obtain a ROW for a new project by implementing restrictions and prohibitions such as those proposed under Alternatives B and C, then USFS and BLM must discuss the impacts those standards and guidelines will have on other resources such as locatable minerals and disclose the potential and likely result of de facto withdrawals as a cumulative, direct, and indirect impacts, which USFS and BLM have failed to do.</p>	<p>Response: The management actions of rights-of-way limitations and impacts on minerals will be better explained in the final EIS. Since this is a land use plan amendment and not a site-specific analysis of a proposed minerals project, the impact analysis is generalized and will not be the same as site-specific analysis of a specific project.</p>

AEMA Letter Dated October 9, 2014		
Comment Number	Comment	Response
3	<p>Comment: p. 16 AEMA opposes any impact analysis that does not quantify the cumulative impacts the proposed management decisions will have on all uses of public lands, including locatable minerals exploration and development. Detailed discussion of the impacts to locatable mineral operations and development, as well as other land uses, must be thoroughly analyzed, developed, and discussed in a revised DLUPA/RDEIS and the public given an opportunity to comment on the revised document.</p>	<p>Response: Cumulative impacts are incremental impacts of the proposed action on the past, present, and reasonably foreseeable minerals projects of the analysis area. The analysis will be general in nature since this is a land use plan amendment and not a site-specific analysis of a particular minerals project.</p>
4	<p>Comment: p. 24 It is universally recognized that invasive species and wildfire are the primary threats to the Bi-State DPS; however USFS and BLM disregard this fact and inappropriately target the regulated community. Alternative C severely limits the possibility of locatable mineral development by way of land withdrawals, validity exams, and surface use restrictions in order to protect and conserve sage-grouse.</p> <p>However, these proposed restrictions do not address the primary threats to the Bi-State sage-grouse. The application of conservation measures or restrictions (to protect sage-grouse) placed upon locatable mineral development should be proportionate to the threat - if any posed by mineral development. Such conservation measures must recognize that USFS and BLM regulations for mineral exploration and development already require proper mitigation measures that include re-vegetation with appropriate species, monitoring plans to identify and eradicate invasive species in the reclaimed areas, and financial assurance to guarantee reclamation. Such existing regulations have enabled BLM to approve a plan of operations for two mining projects in sage-grouse habitat, without having to implement the overly restrictive conservation measures recommended in the NTT Report.³²</p>	<p>Response: We will include more information in the no-action alternative about the protective measures already in place for mineral projects.</p>

AEMA Letter Dated October 9, 2014		
Comment Number	Comment	Response
5	<p>Comment: p. 25 biological, economic, and other sciences" (16 U.S.C. § 1604(b)) and the agency must take both environmental and commercial goals into account (16 U.S.C. § 1604(g); 36 C.F.R. § 219.1(a)), while taking into account the Nation's needs for minerals (see 16 U.S.C. § 528). Section 1604(e)(1) establishes multiple use and sustained yield land management directives and requires the Secretary to "provide for multiple use and sustained yield of the products and services obtained therefrom in accordance with the Multiple-Use Sustained-Yield Act of 1960". In defining "multiple use" MUSY § 531 directs the Secretary to ensure:</p> <p>The management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people ...(emphasis added)</p> <p>Section 528 provides for management of mineral resources on forest lands:</p> <p>Nothing herein shall be construed so as to affect the use or administration of the mineral resources of national forest lands...</p> <p>Under § 529 Congress directs USFS to give "due consideration" to resources. Consequently, USFS must strike an appropriate balance between potentially competing interests and land management objectives, while considering the needs of all species – including the needs of humans for minerals. MUSY does not authorize the subordination of any of these uses in preference for a single land use such as sage-grouse habitat conservation. AEMA contends that applying an emphasis on one resource, sage-grouse, across an entire Planning Area is not consistent with NFMA and MUSY.</p>	<p>Response: Consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531), the Forest Service manages National Forest System land to sustain the multiple use of its renewable resources in perpetuity while maintaining the long-term health and productivity of the land. Resources are managed through a combination of approaches and concepts for the benefit of human communities and natural resources. Land management plans guide sustainable, integrated resource management of the resources within the plan area in the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas. The Forest Service is required by statute to have a national planning rule: The Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, requires the Secretary of Agriculture to issue regulations under the principles of the Multiple-Use Sustained-Yield Act of 1960 for the development and revision of land management plans.</p> <p>The bi-state DPS revised draft EIS is a targeted amendment specifically addressing goals, objectives, and conservation measures to conserve bi-state DPS habitat and to respond to the potential of its being listed (see "Purpose and Need"). Both, the Forest Service's and BLM's planning processes allow for analysis and consideration of a range of alternatives in the revised draft EIS that identified and incorporated conservation measures to conserve, enhance, and restore bi-state DPS habitat and to ensure that a balanced management approach was recommended. The revised draft EIS includes alternatives that provide a greater and lesser degree of restrictions in various use programs, but would not eliminate or invalidate any valid existing development rights.</p> <p>Additionally, the BLM and the Forest Service developed the bi-state DPS revised draft EIS with involvement from cooperating agencies to ensure that a balanced multiple-use management strategy to address the protection of bi-state DPS habitat while allowing for utilization of renewable and nonrenewable resources on the public lands.</p>

AEMA Letter Dated October 9, 2014		
Comment Number	Comment	Response
6	<p>Comment: p. 26 AEMA appreciates the difficult balancing act USFS and BLM must achieve when dealing with competing resources. However, USFS and BLM must recognize that the need for mineral development to reduce the Nation's reliance on foreign sources of the minerals, to maintain our way of life and defend the country, may in fact be greater than the need to conserve nearly a million acres of sage-grouse habitat.</p> <p>1. AEMA Recommendation No. 3: Demonstrate Compliance with NFMA, MUSY, and MMPA- The DLUPA/RDEIS should discuss how the proposed land withdrawals and surface disturbing restrictions proposed under Alternatives B and C comply with the NFMA and MUSY's mandate to balance a wide range of resource values and uses of public lands including the directive in the MMPA to recognize the Nation's need for domestic sources of minerals.</p>	<p>Response: This land use plan amendment is taking into account the balance you described. Consistent with the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528–531), the Forest Service manages national forest system land to sustain the multiple use of its renewable resources in perpetuity while maintaining the long-term health and productivity of the land. Resources are managed through a combination of approaches and concepts for the benefit of human communities and natural resources. Land management plans guide sustainable, integrated resource management of the resources within the plan area in the context of the broader landscape, giving due consideration to the relative values of the various resources in particular areas. The Forest Service is required by statute to have a national planning rule: The Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976, requires the Secretary of Agriculture to issue regulations under the principles of the Multiple-Use Sustained-Yield Act of 1960 for the development and revision of land management plans.</p>

AEMA Letter Dated October 9, 2014		
Comment Number	Comment	Response
7	Comment: P26-28 FLPMA section	<p>Response: The BLM's FLPMA (Section 103(c)) defines "multiple use" as the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people. Accordingly, the BLM is responsible for the complicated task of striking a balance among the many competing uses to which public lands can be put. The BLM's multiple-use mandate does not require that all uses be allowed on all areas of the public lands. The purpose of the mandate is to require the BLM to evaluate and choose an appropriate balance of resource uses which involves tradeoffs between competing uses. The FLPMA also directs the Department of the Interior, Bureau of Land Management (BLM)/ to develop and periodically revise or amend its resource management plans (RMPs), which guide management of BLM-administered lands, and provides an arena for making decisions regarding how public lands would be managed and used.</p> <p>The bi-state DPS revised draft EIS is a targeted amendment specifically addressing goals, objectives, and conservation measures to conserve bi-state DPS habitat and to respond to the potential of its being listed (see "Purpose and Need"). Both, the Forest Service's and BLM's planning processes allow for analysis and consideration of a range of alternatives in the revised draft EIS that identified and incorporated conservation measures to conserve, enhance, and restore bi-state DPS habitat and to ensure that a balanced management approach was recommended. The revised draft EIS includes alternatives that provide a greater and lesser degree of restrictions in various use programs, but would not eliminate or invalidate any valid existing development rights.</p> <p>Additionally, the BLM and the Forest Service developed the bi-state DPS revised draft EIS with involvement from cooperating agencies to ensure that a balanced multiple-use management strategy to address the protection of bi-state DPS habitat while allowing for utilization of renewable and nonrenewable resources on the public lands.</p>
8	Comment: P 28 General mining law	<p>Response: The General Mining Law of 1872 does provide certain valid existing rights where the minerals are available for location. Those rights will remain for all areas open to location.</p>

AEMA Letter Dated October 9, 2014		
Comment Number	Comment	Response
9	<p>Comment: p. 31 In addition, there is no meaningful discussion of how the proposed land withdrawals, prohibitions, and surface use restrictions will affect individuals attempting to assert their pre-discovery rights, as discussed above.</p> <p>AEMA contends the impact analysis is inadequate and does not comply with NEPA, CEQ regulations, or the DQA. USFS and BLM must remedy the errors described above and re-issue the DLUPA and give the public another opportunity to comment.</p>	<p>Response: This is a land use plan amendment and the impact analysis is general in nature unlike the site-specific analysis of a specific minerals project proposal. Also, the timing limitation placed on non-discretionary locatable mineral projects need to be assessed and applied during the site-specific analysis taking the details of the habitat and the proposal into account to best protect the habitat and bird while complying with the mineral regulations and mining law.</p> <p>If the decision is to petition to withdraw land from mineral entry then a separate withdrawal proposal would be prepared with detailed analysis of the mineral potential weighted against the valued habitat. The Secretary of the Interior would evaluate the site-specific analysis and decide if a withdrawal is warranted.</p>

Defenders of Wildlife Letter Dated October 9, 2014		
Comment Number	Comment	Response
1	<p>Comment: Given the importance of public lands to sage-grouse conservation; the sensitivity of these lands to disturbance, longer recovery periods and variable response to restoration; and their susceptibility to invasion by exotic plants (Knick 2011), land uses that negatively affect these lands should be avoided or prohibited in key habitat areas to conserve sage-grouse habitat.</p>	<p>Response: The proposed action includes standards and guidelines that prohibit specific types of activities in bi-state DPS habitat.</p>
2	<p>Comment: It is incumbent upon the HTNF and the CCDO to develop and implement conservation measures for sage-grouse that are biologically adequate and have sufficient regulatory authority to protect and recover the species.</p>	<p>Response: The proposed action includes many standards and guidelines intended to conserve, enhance, and restore bi-state DPS habitat. These standards and guidelines decrease the decision makers' discretion over what may or may not be permitted to occur in the bi-state DPS habitat.</p>
3	<p>Comment: The preferred alternative eschews designating and managing essential habitat for sage-grouse and would permit continued resource use and development that could harm the species.</p>	<p>Response: The habitat used in the final EIS has been identified through modeling, telemetry, and field surveys/verification. As noted in the letter "all occupied habitat is considered as PAC [priority area for conservation]" as the mapped habitat includes all occupied, peripherally utilized habitat, and connective habitat, and the standards and guidelines in the proposed action apply to all habitats equally; there is not an avoidance to the designation of "priority" habitat, but an acceptance that all bi-state DPS habitat is of very high value and needs to be managed for that value.</p>
4	<p>Comment: Sage-grouse conservation plans should designate and manage large areas of priority sage-grouse habitat to conserve the species.</p>	<p>Response: See response to comment 3.</p>

Defenders of Wildlife Letter Dated October 9, 2014		
Comment Number	Comment	Response
5	Comment: The USFS and BLM should outline policy prescriptions regarding designating priority habitat within the context of the NEPA process to develop the Amendment.	Response: See response to comment 3. All habitat for bi-state DPS is of value. Segregating areas where habitat would be preserved over all other considerations would suggest that habitat outside the preserves would be available with fewer protections. The proposed action standards and guideline apply across all habitat (existing and potential). Designation of preserves sets up areas outside the preserves for adverse impacts.
6	Comment: We recommend the Amendment identify and designate sage-grouse priority habitat or PACs in the planning areas based on the areas defined in the proposed listing rule as critical habitat for the Bi-state DPS (79 Fed. Reg. 31901).	Response: See response to comment 3.
7	Comment: Federal land management agencies should designate essential sage-grouse habitat as sagebrush reserves (e.g., Areas of Critical Environmental Concern (BLM), Zoological Areas (Forest Servi research natural areas (BLM, Forest Service) to be specially managed refugia for sage-grouse and other sagebrush-dependent species.	Response: The proposed action in the final EIS includes multiple standards and guidelines which prohibit and or restrict certain types of discretionary activities in the bi-state DPS habitat.
8	Comment: Due to the relatively small and isolated nature of the Bi-State DPS, deference should be given to conservation of all extant populations of greater sage-grouse in the Bi-State area. (Bi-state Technical Advisory Team 2012: 85)	Response: By applying all standards and guidelines to all aspects of habitat the final EIS and proposed action is being responsive to this recommendation.
9	Comment: Future land use and development should be restricted on public lands in priority habitat.	Response: The proposed action in the final EIS includes multiple standards and guidelines which prohibit and or restrict certain types of discretionary activities in the bi-state DPS habitat.
10	Comment: Planners should also consider heavily grazed areas, range developments and vegetation treatments that reduce sagebrush cover as discrete disturbances.	Response: The proposed action includes standards and guidelines that are intended to reduce the potential impacts to bi-state DPS habitat from "heavy" grazing, range developments, and vegetation treatments.
11	Comment: Where new anthropogenic disturbance cannot be avoided (e.g., due to valid existing rights), impacts should be minimized by limiting discrete disturbance to one site per section of sage-grouse habitat (see SGNTT 2011: 23) affecting less than three percent of the land surface, regardless of ownership and including existing disturbance (SGNTT 2011: 7-8).	Response: The proposed action includes a guideline (B-Min-G-05) that limits disturbance related to fluid mineral development to one site per 640 acres on average, with no more than 3 percent total anthropogenic surface disturbance.

Defenders of Wildlife Letter Dated October 9, 2014		
Comment Number	Comment	Response
12	Comment: Consequently, management should ensure that grass height averages 7 inches after the growing season to support sage-grouse nesting the following year.	Response: Researchers studying bi-state DPS (Table 2-1) suggest that grass/forb height is not a factor in nest site selection. Researchers instead cite the need for overhead and lateral concealment as is provided by the sagebrush overstory is one of the primary factors in nest site selection (Connelly et al. 2000; Stiver et al. 2015; Connelly et al. 2003; Hagen et al. 2007)The desired condition has been changed to emphasize lateral and overhead concealment for nesting and brood rearing. See final ROD.
13	Comment: We recommend that the final Alternative prescribe vegetation management that would achieve the 7 inch minimum cover standard.	Response: See response to comment 14.
14	Comment: Sage-grouse habitat should be managed to promote conditions least likely to allow cheatgrass from spreading on the landscape.	Response: The proposed action includes standards and guidelines that are focused on limiting activities in areas with low resistance to the spread of cheat grass or other invasive species. These include: C-Weed-S-01, C-Fire-S-01, B-Fire-G-03, C-Fire-S-03.
15	Comment: Burned areas should be planted with native plant seed to the extent available.	Response: The proposed action includes standards and guidelines directing the use of perennial grasses adapted to the local conditions: C-Fire-G-06, C-Fire-G-05, B-Wild-G-01, C-Wild-S-02, C-Wild-S-06, C-Wild-G-01, C-Wild-G-02
16	Comment: We do not support the guideline, “[g]razing may be used to target removal of cheatgrass or other vegetation hindering Bi-state DPS objectives. Sheep, goats, or cattle may be used as long as the animals are intensely managed and removed when the utilization of desirable species reaches 35%” (B-Weed-G-01, p. 28), for the reasons cited above.	Response: Comment noted. The Forest Service recognizes that there is controversy around the practice as describe in the comment. While the proposed guideline calls out cheat grass specifically. The use of livestock to treat other types of weed infestations has been effective. Before livestock is used to treat cheat grass areas, site-specific analysis would need to occur during which the issues identified in the comment letter would need to be considered and addressed.
17	Comment: None of the RDEIS alternatives define, describe, or explain the concept of “priority habitat” as it pertains to the planning area or sage-grouse habitat within the planning area.	Response: See responses to comments 3 and 5.
18	Comment: Preferred Alternative B does not prescribe surface disturbance caps for discrete anthropogenic disturbance in sage-grouse habitat. T	Response: Because of the sensitivity of bi-state DPS habitat the proposed action includes standards and guidelines designed to prohibit, eliminate, and minimize disturbance in habitat.
19	Comment: The Alternative does not include a height standard for residual cover.	Response: The proposed action does provide a height standard for residual cover in riparian and wet meadow habitats. This can be found in Table 2-5 of the revised draft EIS.

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Comment Number	Comment	Response
20	Comment: The Preferred Alternative includes the guideline, "Grazing may be used to target removal of cheatgrass or other vegetation hindering Bi-state DPS objectives. Sheep, goats, or cattle may be used as long as the animals are intensely managed and removed when the utilization of desirable species reaches 35 percent" (B-Weed-G-01, p. 26).	Response: See response to comment above regarding the use of livestock to treat weeds.

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Comment Number	Comment	Response
1	Comment: Federal agencies should be meeting these benchmarks in all land-use plans regardless of whether or not the Bi-State Distinct Population Segment ("DPS") listing is inevitable, as the implementation of these measures will be key to addressing threats to the Bi-State DPS and its habitats and preventing further population declines while improving the odds for recovery. Viable population sizes for each of the meta populations of grouse in this DPS.	Response: The standards and guidelines analyzed in the FEIS address the threats to the bi-state DPS.
2	Comment: We would particularly call the agencies' attention to the 2012 National Forest Management Act ("NFMA") Forest Planning Rule's requirements that riparian areas be adequately protected (in the case of the Bi-State DPS, from livestock grazing), and the Forest Service's responsibility to document the agency's view of the best available science and how each alternative does or does not reflect this on a point-by point basis.	Response: The plan amendment for protection of the BSSG includes protections for riparian zones and meadows. See Standards B-RI-S-07, B-RI-S-08, B-RI-S-09; Brood- Rearing/Summer habitat desired future conditions (Table 2-1 in FEIS); and Range Utilization standards in Table 2-6 of the FEIS.

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3	Comment: The agencies will need to provide a baseline analysis regarding the current viability of each sage grouse Population Management Unit ("PMU") under current management (Alternative A) in order to establish baseline viability conditions.	Response: The programmatic questions being asked in this analysis do not require the types of base line data being requested. The USFWS identified that existing regulatory mechanisms to protect sage grouse and their habitats in the bi-state area "...afford sufficient discretion to the decision makers as to render them inadequate to ameliorate the threats to the Bi-state DPS". The Forest and the BLM are proposing to amend their respective Forest Plan and Resource Management Plans to increase the regulatory vigor of the different plans to reduce the available discretion of the decision makers. The baseline for the analysis of the proposed action is the current level of protection allowed by the plans and the interim directions. Population statistics and fluctuation of habitat boundaries, while important for making determinations regarding the regulatory status of the species, are not particularly helpful when assessing the strengths or weaknesses of regulatory mechanisms. What species-specific data we use is included as reference material supporting the "Wildlife" section of the FEIS.
4	Comment: We are concerned that Alternative B in particular relies heavily on guidelines (signified by the letter "G") rather than standards. In order to meet the certainty of implementation threshold established under the USFWS PECE policy (see Guardians' original Draft EIS comments on the Bi-State DPS plan revision), the Forest Service must apply standards in all cases rather than guidelines in order to ensure that the proposed protections will be applied in practice when permitted activities are considered for approval. Alternative B as presently crafted fails to implement adequate regulatory mechanisms, failing in many cases to apply appropriate science based protections to be deemed biologically effective, and in many other cases applying discretionary (and therefore unreliable) measures that will fail to meet PECE policy thresholds for certainty of implementation.	Response: While guidelines are more present in Alternative B that does not mean that guidelines are useless. According to the 2012 Planning Rule guidelines are defined as follows: "A constraint on project and activity decision making that allows for departure from its terms, so long as the purpose of the guideline is met. Guidelines are established to help achieve or maintain a desired condition or conditions, to avoid or mitigate undesirable effects, or to meet applicable legal requirements." The key part of this definition is that it allows for departure so long as " <i>the purpose of the guideline is met.</i> " While guidelines allow some flexibility the agency is still responsible for meeting and documenting that the purpose of the guideline is met through some other action.
5	Comment: We support a modified version of Alternative C including the Fluid Minerals Only additional Regulation Option (RDEIS at 76), as outlined below.	Response: Comment noted.
6	Comment: For all fluid minerals (petrochemicals, geothermal), proposed Critical Habitats should be closed to future leasing in accordance with National Technical Team recommendations, with additional restriction applied to valid existing leases as Conditions of Approval under the revised LRMP and RMPs.	Response: There are standards and guidelines in Alternative B and Alternative C that close take strides to close the bi-state habitat area to fluid mineral development.

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7	Comment: Seasonal limitations on geophysical projects (RDEIS at 31) currently appear limited to winter habitats, but these restrictions should also apply to breeding and nesting habitats as well.	Response: Several standards and guidelines address restrictions on fluid mineral and industrial uses that will occur year round in habitat. See table 2-5 of the FEIS.
8	Comment: We agree with the agencies' proposal to apply conservation measures equally to projects involving federal surface estate and federal minerals estate.	Response: Comment noted.
9	Comment: Standard energy development within 2 miles of a lek is projected to reduce the probability of lek persistence from 87% to 5% (Walker et al. 2007). Taylor et al. (2012: 27) examined sage grouse dynamics in the Powder River Basin and found, "For oil and gas development, the signal is strongest within a 12.4-mi (20-km) radius of a lek, and it is much stronger at this radius than at any smaller radii."	Response: Standard C-Min-S-04 specifically states that, "For fluid minerals do not consent to leasing unless only under no-surface-occupancy stipulations without exceptions, modifications or stipulations." That is for all habitat, not just a buffer around leks. There are also several other standards and guideline designed to promote the conservation of habitat address possible impact from various mineral extraction. See Table 2-5 in the FEIS for details.
10	Comment: We would ask the responsible official also to render the same determination regarding the accuracy, reliability, and relevance of science supporting the 3% disturbance cap proposed for implementation as a Condition of Approval for existing fluid mineral leases under Alternatives B and C	Response: While a 3 percent disturbance cap has been included in the proposed action since the draft EIS, there have always been questions regarding how it would be calculated and implemented. The revised draft introduces the "no net unmitigated loss" of habitat which is much easier to comprehend and does not provide for the incremental reduction of available habitat through the 3 percent process. It is the no net loss of habitat standard that is being included in the preferred alternative. The 3 percent cap would be based on existing anthropogenic disturbance in bi-state DPS habitat regardless of ownership. Existing roads, power line corridors, substations, fence lines, range facilities, recreation facilities and trails, disturbance related to mineral exploration and development, would all contribute to the determination of the existing condition. Once the existing condition was determined, any additional (proposed) disturbance would be added to that level until the 3 percent cap was met.
11	Comment: Please also make a formal determination regarding the disturbance cap in the context of sagebrush canopy cover, and if 3% is not the scientifically defensible threshold, then where that threshold should be set, for the same reasons as noted above for the 3% and 5% disturbance caps	Response: See response to number 10.

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12	Comment: Alternative B does appear to apply a 3% surface disturbance limit in the context of fluid minerals (RDEIS at 31); to provide adequate protection against habitat fragmentation and disturbance/displacement impacts, this standard needs to be applied to all surface-disturbing activities and must be calculated per square-mile section, as recommended by the National Technical Team, not “on average” across a larger area. It should be further specified that the 3% disturbance cap must be calculated per square-mile section, as recommended by the National Technical Team (2011). Knick et al. (2013) found that 99% of active sage grouse leks in the western half of the species’ range were surrounded by lands with 3% or less (typically much less) surface disturbance.	Response: Comment noted.
13	Comment: Noise can have a major negative impact on sage grouse, causing disturbance and displacement of birds from preferred habitat and drowning out the mating calls of males during the lekking season. Blickley and Patricelli (2012) found that low-frequency noise from oil and gas development can interfere with the audibility of male sage grouse vocalizations.	Response: There are several standards and guidelines that specifically address noise problems within habitat, especially when it comes to motorized recreation and mineral extraction. See table 2-5 of the FEIS for details.
14	Comment: We support the direction in standards CMin-S-10, -011, and -12 prohibiting new compressor stations and mining permits in sage grouse habitats. RDEIS at 34. In addition, the plans should recommend closing habitats to future mineral entry and development of all kinds. This should include a prohibition on mineral material sales and development (RDEIS at 34) and a prohibition on expanding existing pits (RDEIS at 35) as in Alternative C.	Response: Please note that standards B-Min-S-01 and B-Min-S-02 that address noise levels do apply to all minerals. They are in the 'Minerals General' section of the amendment.

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15	Comment: We support the Alternative C provision to cease livestock grazing in sage grouse habitats as the most beneficial outcome for both sage grouse and their habitat needs. If the agencies are unwilling to take this step, then at the very least livestock grazing must be managed in such a manner that it prevents any further sage grouse habitat degradation, fosters the recovery of currently degraded habitats to full function in accordance with sage grouse needs, and in all ways maintains all habitat elements required for the survival and recovery of greater sage grouse.	Response: There are standards and guidelines that constrain decision making in the permitting process, the and the livestock management process.
16	Comment: Unless the agency can articulate a justification for sage grouse habitat objectives not being enhanced by permit retirement, it should presumptively accept that improvements in native understory composition, residual grass height, forb production, alleviation of soil compaction, alleviation of biological soil crust destruction, and alleviation of cheatgrass expansion will necessarily improve sage grouse habitats.	Response: Retirement of term grazing permits is a business decision made by the Permittee. If a Permittee makes such a decision the Forest could consider closing the allotment in compliance with policy.
17	Comment: We are concerned that the federal agencies have incorporated rankings of threats to the Bi-State DPS from the Bi-State Technical Advisory Committee ("TAC," see RDEIS at Table 3-9), and that this threat assessment was biased and does not reflect the best available science. For instance, livestock grazing was ranked as a "low" level threat in all Population Management Units, while wild horse and burro grazing was ranked as a "moderate" threat in three of the five units. RDEIS at 80. Forest Service reports a total of 85,886 AUMs of domestic livestock within bi-State sage grouse habitat RDEIS at 99.	Response: The Technical Advisory Committee team includes wildlife biologists from the BLM, Forest Service, U.S. Geological Survey, USFWS, and California and Nevada state wildlife agencies. They were brought together because of their expertise and experience studying the life habitat and habitat requirements of the sage grouse. Their efforts are primarily responsible for what is currently known regarding the population and distribution of the bi-state DPS.
18	Comment: This is a programmatic EIS analyzing the potential effects of the proposed action and alternatives on the resource programs managed by the Forest that may affect bi-state DPS habitat. The management direction that makes up the plan amendment does not include any specific actions on the ground. That is what the secondary 'project level' NEPA analysis does and where further analysis of wild horses and burros would take place once a project is proposed if needed.	Response: This is a programmatic EIS analyzing the potential effects of the proposed action and alternatives on the resource programs managed by the Forest that may affect bi-state DPS habitat. The management direction that makes up the plan amendment does not include any specific actions on the ground. That is what the secondary 'project level' NEPA analysis does and where further analysis of wild horses and burros would take place once a project is proposed if needed.

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19	Comment: For the Great Basin, Connelly et al. (2000a) recommended leaving residual grass cover at least 18 cm in height, available during the nesting season. This finding was empirically confirmed by Hagen et al. (2007). Gregg et al. (2008) found that forb components are critical for early brood rearing, and recommended that land managers establish standards for these; such standards are also absent under the Preferred Alternative and not considered under any alternative, although such measures are reasonable and scientifically supported.	Response: The desired future conditions in Table 2-1 apply to the entire habitat area as identified in the FEIS. These DFCs include residual grass height requirements in addition to utilization standards for grazing in Table 2-6 to help maintain appropriate height for the grouse during all of its life stages.
20	Comment: Collisions with fences pose a potentially major cause of mortality for sage grouse. There are 212 miles of fence in Bi-State DPS sage grouse habitats. RDEIS at 99. Stevens et al. (2013) found that fence collisions are an important source of grouse mortality, and fences on flat areas near leks were a particularly high risk for causing sage grouse fatalities.	Response: There are standards and guidelines that address fences within bi-state grouse habitat. These standards and guidelines apply not only to minerals, but to rangeland improvements as well. See Table 2-5 of the FEIS for details.
21	Comment: The Forest Service should require as a standard that all crested wheatgrass plantings be remediated to be replaced with native bunchgrasses and shrubs.	Response: If there are crested wheat seedings in the area and converting them to native bunch grass and sage-brush habitat would improve habitat condition it is may be accomplished through site specific project planning. Using genetically and climatically appropriate seed that is certified weed free. All with the intent to move habitat toward the future desired conditions as described in Table 2-1 of the FEIS.
22	Comment: The role of fire in the sagebrush ecosystem, and how (or if) it drives the patch dynamics of the system, is poorly understood at present. A landscape mosaic of burns may not meet the nesting habitat needs of sage grouse (Nelle et al. 2000), and may also fail to meet grouse habitat requirements during other seasons (Wamboldt et al 2002).	Response: We are not proposing any prescribed fire or vegetation improvement with this EIS. This plan amendment is stickily programmatic and does not propose any on site activities. See the fire resource sections of Table 2-5 in the FEIS for details.

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23	Comment: Under all action alternatives, prescribed fire can be used in key sage grouse habitats where the benefits outweigh the risks. RDEIS at 18. However, the science does not support the use of any fire under any circumstances in key sage grouse habitats. We are particularly concerned that Objective 3(a) will result in degradation of sage grouse habitats; it provides, "By 2024, proactive fire prevention treatments will have been implemented in or adjacent to 30 percent of the identified priority habitat."	Response: While prescribed fire was not outright 'banned' from habitat several standards and guidelines look to minimize any potential effects a fire may have on habitat. Specific actions and their potential effects will be further analyzed in a project level NEPA analysis. Please see the fire resource section of Table 2-5 in the FEIS.
24	Comment: For fire suppression, the direction in Alternative B regarding a prohibition on prescribed fire where risk of escape could cause negative impacts is complementary with the corresponding direction in Alternative C to suppress fire to prevent invasive grasses (RDEIS at 35), and both standards should be applied. This is not an 'either-or' situation.	Response: See the ROD for specifics. Both of those standards were identified for selection
25	Comment: Furthermore, vegetation projects should in no case be allowed to remove sagebrush below the 15% cover threshold, neither for fire suppression purposes or any other purpose. See RDEIS at 35. In this regard, no alternative provides an adequate and appropriate level of protection for sage grouse habitat to prevent significant impacts from vegetation projects.	Response: Specific kinds of projects are not identified nor 'banned' by this plan amendment. All projects that are potentially proposed in Bi-state sage grouse habitat must follow the management direction (i.e. desired future conditions, standards, guidelines, etc.) that is selected and decided upon in the ROD.
26	Comment: Off-road vehicle use is widespread in the planning area (see, e.g., RDEIS at 49-50). BLM notes that continuation of existing management is likely to result in "absence of sage grouse or degradation of habitat." RDEIS at 51. Some 503.6 miles of vehicle routes occur within 5 miles of active sage grouse leks (RDEIS at 48), and these routes would be expected to have the greatest impact on sage grouse. These roads should be the top-priority candidates for removal and at minimum should be closed throughout the season(s) of grouse habitat use.	Response: Cross country use is no longer allowed in habitat areas. See Table 2-5 for details.

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27	Comment: We support complete closure of federal lands to cross- country travel as under Alternative C (RDEIS at Table 3-3) rather than merely maintaining the current closure of Forest Service lands only, with a future determination for BLM lands as in Alternative B (RDEIS at Table 3-2).	Response: That has been corrected; see Table 2-5 of the FEIS for details.
28	Comment: It is important to note that the Bridgeport Travel Management Plan did not result in sufficient road closures to address the habitat needs of sage grouse, and additional closures of some 388 miles of roads crossing key sage grouse breeding and nesting habitats would benefit Bi-State DPS recovery. The travel planning process should be re-opened on national forest lands to address this deficiency.	Response: The revised draft EIS and final EIS removed this paragraph and revised its discussion about the miles of road passing through leks; please see the "Effects on the Management of Access to Federal Lands" for updated information. Travel planning is an ongoing process. If NFS roads or NFS trails open to motorized vehicles are causing resource impacts they can be addressed through a site specific NEPA analysis and seasonally closed or removed from the road system.
29	Comment: However, the ability to permit off-road vehicle events within 0.25 mile of active leks, during the breeding season, as long as they occur after 10 am (RDEIS at 20) is absurdly permissive. First of all, the 0.25-mile buffer is ridiculously small	Response: This buffer has been enlarged to 3 miles between March 1 and May 15th and those events can only take place during daylight hours after 10 a.m. See Table 2-5 in the FEIS for more details
30	Comment: The direction limiting tall structures in both Alternatives B and C are steps in the right direction but in the end are inadequate to prevent significant impacts to sage grouse population	Response: Standards identified for selection includes the 4 mile buffer in addition to other standards that require predator perches be equipped with anti-perching devices. See Table 2-5 in the FEIS for more details
31	Comment: We support the direction in Alternative C to exclude all utility scale wind farms (RDEIS at 21), with the caveat that this should apply only to lands within 2 miles of Priority or General Habitats or proposed Critical Habitat; it would be desirable to permit the construction of new wind farms in otherwise environmentally appropriate areas at a safe distance (2 miles) from occupied sage grouse habitats or sage grouse expansion areas identified in Critical Habitat	Response: Comment noted

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32	Comment: Nonne et al. (2011) found that raven abundance increased along the Falcon-Gondor powerline corridor in Nevada both during the construction period, and long-term after powerline construction activities had ceased. Braun et al. (2002) reported that 40 leks with a power line within 0.25 mile of the lek site had significantly slower population growth rates than unaffected leks, which was attributed to increased raptor predation. Dinkins (2013) documented sage grouse avoidance of powerlines not just during the nesting period but also during early and late brood rearing. In other sage grouse plan amendment DEISs, BLM has documented negative effects to 4 miles from powerlines and beyond	Response: Comment noted. Various standards and guidelines specifically address ROW, tall structures, and power-lines. Including guideline B-LUSU-G-06 that encourages that power-lines be buried where ever feasible. See the Access/Recreation and Special Land use sections of Table 2-5 in the FEIS
33	Comment: We support proposed restrictions on new recreation facilities to keep them below 3% surface disturbance as in Alternative B (RDEIS at 20); this should be specified to be measures on a per square-mile-section basis	Response: Alternative C has a standard that prohibits new recreation facilities of all kinds within habitat (C-AR-S-04). In addition, various buffers of 3 miles are proposed for protection of leks and habitat in table 2-5 of the FEIS
34	Comment: The existing direction to “maintain desirable sagebrush habitat within 2 miles of leks” in the No Action and Alternatives B and C (RDEIS at 23) is insufficient to prevent habitat impairment across occupied nesting habitats	Response: The desired future conditions (Table 2-1 in FEIS) and other standards and guidelines in the FEIS apply to all identified habitat in the FEIS. Therefore it is expected that the 'desirable sagebrush habitat' will extend beyond the 2 miles of a lek that is discussed in the no action alternative
35	Comment: We support the direction under Alternative C to work to re-establish connectivity through maintaining vegetation suitable for sage grouse and seeding and transplanting sagebrush to re-establish suitable habitats. RDEIS at 91.	Response: Comment noted.
36	Comment: We remain concerned, however, that efforts at piñon-juniper removal lack the kind of specificity and direction (as well as a hard look at environmental consequences) that is necessary to ensure that piñon-juniper removal will benefit sage grouse, and not harm piñon-juniper obligate species	Response: This plan amendment is programmatic in nature and at this level we are not able to dictate specific on-site actions. This will be done at the 'project' level NEPA proposal and analysis. However, the desired future conditions (Table 2-1 in the FEIS), goals and objectives (Table 2-3 in the FEIS), and standards and guidelines in Table 2-5 in the FEIS (i.e. C-Wild-G-03) specifically address the importance of removal of phase 1 and 2 pinon-jumpier within habitat

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37	Comment: The plan revision needs to incorporate standards to minimizing the use of herbicides and pesticides inside sage grouse habitats, and using them as a last resort. We are concerned that aerial applications of herbicides and pesticides are reasonably foreseeable in the planning area. Insects are an important food source for sage grouse; this is particularly true during the early brood-rearing phase	Response: Standard B-Weed-S-02 in Table 2-5 of the FEIS prohibits the use of herbicides during the critical disturbance period. Herbicide use would only be allowed in bi-state DPS habitat if other integrated pest management approaches are inadequate or infeasible. Limiting the timing of herbicide application could hinder noxious and invasive weed management efforts for some species. There are no proposals for the aerial application of herbicides in this EIS and any proposals to apply herbicides aerially would require an EIS.
38	Comment: While NEPA requires a 'hard look' to be taken at the direct and cumulative impacts of alternatives, the RDEIS fails to provide this hard look regarding impacts of the various alternatives on sage grouse and their habitats in the Bi-State DPS area (see 'Effects to Wildlife', RDEIS at 78 <i>et seq.</i>). The impacts analysis for wildlife appears to be limited to a descriptive recapitulation of the proposed protection measures in each alternative, without including the direct or cumulative impact of applying those measures on sage grouse or their habitats. For a given threat, will the collective conservation measures by alternative result in improved grouse habitats, further impacts to grouse habitats, or no change?	Response: In the Forest Service, Land and Resource Management Plan direction (NFMA) sets the "side boards" for specific project proposals. Plan direction is considered "programmatic" while site-specific NEPA actions on Forest Service lands are analyzed at the "project" level. We believe the proposed goals, objectives, and standards and guidelines provide enough direction to ensure that project-specific design features and mitigation measures will ensure the restoration and protection of the bi-state DPS habitat. The best way to do something changes frequently as the science improves. Therefore, having specific mitigation at the planning level is not prudent. These and other analysis assumptions are described in detail on p. 51-52 of the FEIS.
39	Comment: The RDEIS fails to consider the designation of occupied sage grouse habitats as either Research Natural Areas (RNAs, Forest Service) or Areas of Critical Environmental Concern (ACECs BLM) in any alternative	Response: The purpose and need provides the rationale for the critical need to protect the bi-state DPS. Both the proposed amendment and the alternative apply to all mapped bi-state DPS habitat. While the mapped area does not have a special designation such as an ACEC, it still contains similarly specific management prescriptions to manage and protect the bi-state DPS and its habitat. All of these management actions provide similar and equal protections for the bi-state DPS. This EIS is a Forest Service-lead planning effort and is following the Forest Service planning process. The Forest Service does not recognize or establish ACECs, nor does the Agency have the authority to establish special reserves equating to a wilderness (that authority resides with congress).
40	Comment: We recommend the adoption of the following measures which are proposed for adoption in the Preferred Alternative of other BLM plan revisions or sage grouse amendments. Some of these are similar to the provisions of Alternatives B and/or C.	Response: Many of the items included in your list of measures are being considered in the Alternatives in the FEIS and ROD. Some do not apply to the bi-state dps habitat area
41	Comment: We encourage the Humboldt-Toiyabe National Forest and Nevada BLM Field Offices to combine this planning effort with sage grouse plan amendments for the Inyo National Forest and Bishop Field Office in California	Response: Comment noted. We are aware of the other units and their efforts and are consistent with them

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42	Comment: We caution the federal agencies that there is a need to achieve regulatory certainty in fulfillment of the USFWS Policy on Effectiveness of Conservation Efforts ("PECE Policy"). The Endangered Species Act is a statute with substantive requirements directing that threats to the persistence of candidate species be addressed in a manner that incorporates scientifically sound and defensible protection measures to ensure that they will be eliminated or minimized	Response: The FS and BLM are aware of our roles in meeting the PECE process and that of the USFWS. The implementation of the standards and guidelines on the amendment will provide regulatory certainty that the appropriate steps are being taken to protect the bi-state DPS and habitat.